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SUPERSTITION IN MEDICINE.*

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A title as lacking in connotative qualities as is "Superstition in Medicine," demands at least a few words of explanation in order to start us off on common ground, and with a common understanding. Superstition does not embrace merely the innumerable instances of the ludicrous in medicine, resting on a false basis of deduction, nor does it consist merely in a large store of folk lore, with its numerous mystic side lights on the art of medicine. The term is a broader, a more comprehensive one. Lehmann, in his "Aberglaube und Zauberei," attempts to express this breadth when he coins the definition, "Superstition represents the overflow of the mind along religious or scientific paths." These overflows course along the natural road of advancement, for they all lead to error. Truth ultimately results only from the correction of error, and by truth alone are we advanced. We need call to mind merely the one fact that our modern, highly scientific chemistry unquestionably takes its origin from the magic and superstition of old time alchemy. Superstition then, is for us the assertion of, and belief in doctrines not possessing the necessary scientific and rational basis on which to rest. It is claimed, neither by statement nor by inference, that these false conceptions have absolutely *no* basis; such an assertion would deny to superstition its genesis. The present day disciple of Swedenborg and Andrew Jackson Davis does not develop his ghosts and spooks from absolute nothingness. Countless ages back the idea of ghost may have originated in the mind of one of our forest roaming progenitors as the result of seeing a moon illuminated, somewhat human shaped tree stump. The present-day doctrine of our Christian Science brethren may have had its tiniest beginning in a mental derangement of this self-same progenitor, who so clothed his delusions that they assumed the form of truth. At all events, *somewhere* will be found a basis on which to rest the error. Faulty observation, or faulty deduction from a correctly observed fact, are the bases on which superstition rests. Astrology, for instance, with its veritable maze of medical highways and byways, received its death blow

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only when, by correct observation and deduction, the facts of the planetary system were developed.

Truth absolute has never reigned; alluring theories, vain reasonings, inconclusive deductions have constantly shifted the magnetic needle from the north. There is in the very nature of man a vague something, a mystic reverence for the so-called unknowable, an inherent perverseness to lose his course, that has constantly led him astray, even in his wisest moments of clearest thought. Let us, then, this evening point out these wanderings of all times, and show that by frequent boxings of the compass the true course is gradually found, but that the needle never remains true.

It is but natural to suppose that superstition, in its essence, could be best studied in the earliest primitive races. Unfortunately, however, historical records do not extend back far enough to give us trustworthy data concerning the habits of life and thought of the world's earliest tribal communities. Historians have extricated themselves from this dilemma by studying aboriginal tribes living today. They tell us that in Africa and Asia, in Australia and America human beings may be found so thoroughly isolated from the influence of modern civilization as to be models of the earliest primitive races. Some historians, indeed, have taken our own North American Indian as a type of the world's primitive peoples; and this fact, in itself, proves the thesis that these earliest people were in the highest degree superstitious. All of us are more or less acquainted with the superstitious vagaries, medical and non-medical, of our North American Indian. Max Bartels in his medico historical classic, "*Die Medicin der Naturvoelker*," tells us that in all primitive peoples the ideas of demoniacal influences, spirit powers, and the hatred of the gods are interspersed only here and there with a rational thought. In all of these aboriginal tribes there exists the idea that the power to heal is a divine right, granted by the gods only to certain individuals. In the spiritual as well as in the scientific life of these early peoples, superstition runs riot and the absolute lack of a rational basis of thought permits us to characterize their mental processes as fantasies, rather than as attempts to correlate facts, and to deduce even falsely therefrom.

The earliest written records that have come down to us concern the Egyptians of about 6000 B. C. From the early hieroglyphics we learn that Egyptian medicine was largely a God medicine, with Isis presiding and a range of lesser sacred medical dignitaries, running all the way down to Ibis, the God of Enemata, an office which he was well able to fulfill, owing to his long canula-shaped beak. Theurgy, astrology and alchemy had their earliest beginning under Egyptian regime. The history of the Chaldeans dates back almost as far as does that of the Egyptians. We have writings concerning them that go back 5000 years B. C. From their clay tablets we learn that they also were largely governed by

the idea of the divine influence on man. Diseases were regarded as the impersonations of evil spirits that could be banished only through imploring the aid of the gods, who in their turn advised the method of riddance, be it by a bath in water from an uncontaminated stream, or by wrapping the head of the patient in one-fourteenth of the hide of a female camel, who had never borne young, or by some other equally fantastic procedure. Exorcism, prayers, and incantations played an important part in Chaldean medicine, different prayers being used to suit different occasions. Pregnant women e. g. always prayed, "Oh God Bitnur, drive my pains far into the distance, strengthen my foetus, and see that its head develops fully." Under these same Chaldeans, 2000 years later, during the rule of Sargon I, astrology first began to assume a prominent place; and hand in hand with the worship of the heavenly bodies there developed the peculiar superstition of attaching significance to animal life—a yellow dog boded ill, a reddish one signified health and good luck. This same people it was who first developed the idea of unravelling dreams, and of weaving a veritable system of prognostics about them.

The superstition of the Egyptians and Chaldeans, although it unquestionably is less fantastic than that of the primitive races, and, although it contains the nucleus of at least a bit more scientific thought, is nevertheless rank superstition; superstition moreover of rather serious import, since it spread by direct contact to the early Persians. The Graeco-Persian wars served as an outlet for many of these beliefs to start new growth on a fallow soil; so that when finally Alexander the Great conquered Persia, Greece was fairly overrun with the old brand of Chaldean superstition. It is a confirmed fact, that up to the time of Hippocrates, medicine in Greece consisted largely in prayers and oracles, exorcisms and incantations.

The old Jews were freer from superstition than any other ancient people, they recognized no good and no bad spirits, and no Gods save Jehovah. The laws of Moses specifically prohibit the commoner forms of superstitious belief and magic. Despite these checks, however, there is no lack of evidence to show that superstition played no small part in the life of the early Jews. Demons, it is true, they did not consider, but they placed almost a blind faith in the so-called cabalistic writings. These writings were made up of words representing numbers, each word possessing a charmed significance, the system having supposedly originated with the angels. We should naturally expect that from their close contact with the Babylonians and Assyrians, the Jews must have absorbed some of the general tendency and leaning toward superstition, all the Mosaic laws to the contrary notwithstanding; and such a supposition if we are to believe Lehmann, is correct, for he tells us that during the era of Babylonian captivity the mind, manners, customs and daily life of the Jews were fairly honey-combed with superstitious beliefs; even the

Talmud itself, a book regarded as one of the most rational of medical compends, mirrors here and there a tendency distinctly superstitious in nature, as may be seen by reading the treatment prescribed for vesical stone and atresia ani.

The Jews, Egyptians, Chaldeans, Persians, Chinese and Japanese, constitute a set of races whose history is not directly linked with the progressive modern day advancement of medical science. The beginning of the true march of medical progress dates with the Greeks.

We have already considered primitive and ancient people, and have attempted to show that their spiritual life as a whole, was little less than a maze of superstition. There remains, then, the task of tracing tendencies from the early Greeks down to modern days. The exigencies of time and space absolutely demand that our considerations be along broad lines; details, however interesting, may not detain us in our object to search for superstition, to note it when found, and then to pass to other times in other lands. Let us not forget in our search, however, that we have agreed to consider superstition as deductions resting on grounds that we in our times regard as irrational and unwarranted, and that the basis of all superstition is false observation or false deduction or both.

In dealing with early Greek medicine, our avowed object is not to point out its excellencies, for they are admitted; not to detail its forestalling of modern ideas and not to practice critique on its rational doctrines; but solely to show that medicine is indissolubly bound up with general culture, that since the general culture preceding the Greek period was fairly riddled with superstition, and that since the decadence of Greece was also characterized by a similar tendency, we may expect evidences of superstition, mysticism and speculation to be scattered through the whole Greek medicine, even during its most robust era.

The direct forerunners of Hippocrates were the caste of Asklepiades, direct descendants of the God Æsculapius. In their honor temples were built, to these temples patients repaired and were attended by priests. So great was the faith of these patients in the Gods that they brought, in fact were forced to bring them, gifts of gold and ivory. These gifts the priests furtively secreted and disposed of for their own gain. Here we have, in almost the earliest of times, superstition as the basis of the rankest quackery.

Hippocrates, himself, lived during the height of the culture of Greece, Thucydides, Herodotus, Pericles, Aeschylus, Sophocles and Euripides were his contemporaries. His writings ought to be, and are, free from almost all traces of the mystic and superstitious. But are they entirely free? The very foundation of his system rests on the crassest humoralistic basis. The body is made up entirely of watery elements. These must conform to the established four elements of nature, therefore he creates four special fluids: blood representing heat, mucus cold, black bile dryness and yellow bile wetness. The mucus was secreted by the brain,

trickled through the cribriform plate of the nose, and was thence distributed through all parts of the body, sneezing, therefore, was a most healthful act, hence our present day "God bless you." The black bile was secreted by the spleen, which poured it into the stomach. Health consisted in an absolutely correct proportion of these four elements, disease in a disturbed balance. View this conception as we may it is difficult to divorce ourselves from the idea that, resting on an entirely false basis of observation and deduction as it does, it must be classed among the superstitions. Hippocratic medicine was not great and sound and practical because of these theoretical conceptions. Hippocrates' keenness of clinical observation was so extraordinarily great that his system was practical, despite the hampering influence of falsely dogmatic assumptions. In spite of the fact that Hippocrates was followed by Aristotle, the founder of the deductive system of reasoning, and forerunner of the Alexandrian school of medicine, despite the fact that the Alexandrians were even closer students of nature and natural laws than Hippocrates himself, and despite the fact that this was an era of extraordinarily high type of practical medicine we still see, during this whole period, the enunciation of medical doctrines that we to-day should class as the crudest imaginings. The methodists, empiricists, encyclopædists, pneumatics and eclectics, were schools that varied often only in hair-splitting sophistic details concerning humoral and solid pathology. These were the days of the development of cure-all drinks, the so-called Theriaca, and of the dilettante preparation of cosmetics, no less a person than Cleopatra herself engaging in the art of describing their preparation and their influence on the diseases of women; days, in short, characterized by Pagel as evidencing an absolute absence of anything scientific pertaining to the practice or science of medicine.

This decadence of medicine in Greece is only one of the weak links in the steadily forged chain of medical advancement. It is no more possible for heresy and superstition to maintain a permanent dominancy than it is for a noxious drug to serve as a steady article of diet. One narrows and withers the mind and spirit, the other incapacitates the body. Either the race dies, heresy perishing with it, or it wakens and by its very awakening crowds superstition once again into the background. The death-bed scene of medicine we just saw in Athens. Let us turn to Rome for the resurrection. One hundred years before Christ medicine in Rome was in the hands of bathing attendants, slaves and recently freed men. The elder Marcus Porcius Cato himself states that there was no place for the science of medicine, since all diseases could be cured by a draught of wine, with a lump of coal in it. This was a larval stage. Two hundred years later the fully equipped imago, in the shape of a new medicine begins its life cycle, and we enter the Galenic era, an era, lasting nearly fourteen centuries. Here, again, it is not the spirit of Galenic medicine that is under discussion. Its excellencies are

not the subject of the critique. The question is: granting a high tone and a rational basis to this Galenic era, do we nevertheless not find evidences of the ever present superstitions?

Pagel states that we should not allow ourselves to become too enamored of the high lights of Galen's doctrines and their influence lest we overlook the shadows. Many of the expected good results of his medicine we are told were nullified by his serious attempt to stimulate pure speculation by leaguening medicine with philosophy. Pure speculation at the very outset—on guard for superstition! A combination of Plato's idealism and Aristotle's rationalism led Galen into a maze of dialectic. To him nothing in medicine was unsolvable. Dialectic reasoning was the nut cracker that he used on all hard facts. All questions of medicine he not only answered with ease, but with an unwavering authority, and in this fact lies the magic of his influence, extending through so many centuries. Many of the speculative fetiches that Galen set up served as doctrinal theses on which rested much of the superstition of the middle ages. Let us merely call to mind that Galenic physiology firmly established the belief that the body's only function was to serve the soul, and for this purpose the various organs must be regarded as tools. We see the same sort of speculation in his pathology; he developed the humoral idea by adding the so-called dyscrasias, and the limiting factors of age, residence and mode of life, diluting and re-diluting the doctrine until it was a veritable mosaic of fancy.

This marked theoretical tendency contrasts sharply with the eminent practicability of Hippocrates. Galen's autocratic establishment of irrational doctrines, in other words, of doctrines which flavored strongly of superstition, has been said by the great clinician of Holland-Boerhaave, to have worked more harm than good for medicine. So summary a charge against Galen might well be conceived to have its genesis in a preconceived purpose of the author to search for evidences of superstition and disclose them, at all cost, rather than in a desire to furnish a correct interpretation of Galenic doctrines. Those of us, however, who do read questionable elements into Galen's work are not alone in our interpretations. Dr. Osler in his address, "Teaching and Thinking," refers to "Thaumaturgic and Galenic superstition." Pagel's and Boerhaave's opinions have already been quoted, and Haeser voices the same sentiments.

Galen's autocracy maintained itself throughout the entire period of the middle ages, and served as a hull to which innumerable barnacles attached themselves. It is hardly necessary to confirm the statement that medicine during the middle ages was fairly crusted over with superstitions. In no branch of science is the general tone and culture of people more accurately mirrored than in medicine. No gap is more quickly sought out as a point of support by the tentacles of superstition than is a hiatus in medical knowledge; therefore, instead of citing specific false

doctrines and theories, we need only call to mind the general tone of the middle ages, with their crusades, feudal barbarities and witchcraft, with their neuplatonic philosophy leading up to magic, sorcery and exorcisms with their theological struggles, allying terrorism with credulity; in short, with their everything that goes to make them merit the title of "Dark Ages." In the very midst of this darkness Arabian medicine arose, and with such lights as Avicenna, Avenzoar, Averroes, Rhazes and Maimonides it made a clearing. But by the 12th century the light failed. Arabic religious doctrines clashed with the idea of investigative research, dogma won out, and the ever-present superstition again raised its head.

Roger Bacon. Englishman, philosopher and politician; Arnold de Villanova, Spaniard, scientist; Henri de Mondeville, Frenchman, physician, and Francesco Petrarca, Italian poet, ushered in the so-called *prerenaissance*, a period extending from the 13th to the 15th centuries, characterized by the remains of many of the viciously superstitious doctrines of the middle ages, rapidly giving way to enlightenment, reason and investigation. Errors of such magnitude as those that honey-combed the middle ages could not disappear at once, even under the onslaughts of a Bacon, a de Mondeville, or a Guy de Chauliac. The atmosphere cleared only with the advent of the true renaissance. The 15th and the early part of the 16th century are accorded the position of honor in the world's history. This was the era of Columbus and his American discoveries, Gutenberg and his printing press, Luther and his protestations, the era of the introduction of gun powder, the founding of universities, and the complete revolution of ideas, social, political and religious. During these times there lived three of the most noted men in medical history; men who gave color to their own and all succeeding ages: Andreas Vesalius, the anatomist; Ambroise Pare, the surgeon, and Philippus Theophrastus Paracelsus, the physician. Truly, we are again in times of the whitest high lights, with seemingly no place for the shadows of irrational dogma or doctrine. Let us see, then, if medicine, even in these advanced times, is truly free from superstition.

It is a matter of history, that in the newly founded Italian universities Plato was revived and studied most assiduously. With this study came to life again the same neuplatonism, which was the basis of so much false belief during the middle ages. Now, as then, neuplatonism assumed the right of citizenship in medicine; as a result at no time did astrology, alchemy, necromancy and witchcraft flourish more luxuriantly than during the early 16th century. This was the time of the widespread of three of the greatest plagues in history: syphilis, the English sweat and typhus exanthematicus. Haeser tells us that none of the greatest thinkers of the time, Luther included, doubted for a moment that these plagues were the manifestations of demons. Thomas Erastus, one of the greatest thinkers of all times, openly preached his

belief in demons and ghosts. The medical representative of the times, Paracelsus, himself has been judged a mystic, a deceiver and a quack, owing to the influence of the times on his doctrines and teaching. Even the 16th century, then the close of our much vaunted renaissance, not only ended what had been a veritable inundation of new thought, but also marked an era of innumerable mental overflows far away from the direct channel.

The 17th century gives birth again to a deep and earnest attempt at a serious interpretation of facts and phenomena. Mysticism and superstition, such as we have described during the 16th century, palls before the philosophy of Francis Bacon, Descartes and Spinoza, a philosophy and development for which the time was ripe, and which absolutely forced itself on men's minds. Never was better exemplified Huxley's terse epigram, "Knowledge is brought, not sought." Bacon, with his inductive method; Descartes, with his "cogito, ergo sum;" Spinoza, with his doctrine of pantheism. We may well listen sharp for so much as the tone of a false ring during such times. Robert Boyle, Johann van Helmont, Glauber, von Leuwenhoek, Harvey, Steno, Malpighi, Lower, Cooper, Wirsung, Glisson, Wharton, Silvius, Willis, Highmore, Sydenham, all these and many more should serve as effectual checks to the searcher for evidences of the spurious and false in medicine during this 17th century era. Yet, according to Baas, there existed during this very era of progress and enlightenment, two sets of physicians; one the so-called regular set, made up of court, field, hospital and pest physicians, wound doctors, apothecaries, midwives and nurses, and the other a set of quacks, made up of old women, village ministers, dispensers of quack salves, urine prophets, peripatetic Jews, crystal gazers, gypsy fortune tellers, demon and devil banishers, sooth sayers and rat catchers; a motley crowd to be leagued with the preceding illustrious names, if only by the slight bond of consanguinity of time. We are almost up to modern days, and we have not as yet been able to shake our science free from some form of superstition, a superstition at times only too patent and yet never so concealed as to require diligent search.

Yet it must have struck some of us that we have really had to do with two distinct varieties; the one based purely on faulty observation and deduction, originating in no desire to deceive and resulting in nothing more than the growth of an intricate maze of fantasy and delusion. The other based on the gullible in human nature, intent on deception and personal gain, and resulting in a set of vicious and debasing practices. The latter half of the 18th century really marks the crowning point of this crass variety. Friedrich Anton Mesmer, with his tinkling bells, liveried attendants and magnetic passes; Samuel Hahnemann, with his (so aptly termed by the Germans) "bloedsinn;" Franz Joseph Gall, with his cranioscopy or phrenology, all thrived side by side with such men as Hoffman, Stahl, Boerhaave, van Swieten, Auenbrugger,

Haller, Morgagni, Hunter, Jenner, Pott, Petit and Bell. Still room for superstition! And need I mention that in our very own times, despite our Spencers and Huxleys, our Darwins and Weissmans, our Virchows and Pasteurs and Kochs, we are still obliged to wear armor against spiritualism and Christian Science, against osteopathy and Doweyism, against theosophy and the miracles of Lourdes and St. Anne.

Does not, after all, the ever present spirit of superstition, as we have traced it from the earliest times, serve as a stimulus to scientific medicine to strengthen her defenses? Is it not after all the same old battle of shell against armor? Are not false doctrines the surest sign posts of whither not to stray, and do they not eventually point out with certainty the right way? My task has surely been one of love's labor lost were I to view the situation with a pessimistic air of doubt. Medicine, let us never forget, is not an exact science, and its very inexactness is the spring and fountain head of false theorizings, leading to superstitions. New trails are blazed by each new Messiah, and nothing is surer than that there are Hippocrateses and Aristotles, Virchows and Darwins yet to come. If the underbrush is disturbing let us, with Dr. Osler, at least contemplate the disturbance with the spirit of "æquanimitas!" The days of incantation and witchcraft are passed, demons and gods have been relegated to their proper places, and as more and more light is shed we shall see verified Tennyson's prophecy,

"Yet I doubt not through the ages one increasing purpose runs,
And the thoughts of men are widened with the process of the suns."

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A BRIEF HISTORY OF PREVENTIVE MEDICINE.*

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Gentlemen:—The subject I have chosen for this lecture is one which demands the attention of the profession on every hand. Whether in general or in special work the physician must recognize the importance of prophylaxis.

According to Herbert Spencer, "The actions and precautions by which from moment to moment we secure personal safety clearly take precedence over all others. . . . Besides guarding the body against mechanical damage or destruction it has to be guarded against injury from other causes—against the disease and death that follow breaches of physiologic law. . . . If any one doubts the importance of an acquaintance with the fundamental principles of physiology as a means to complete living, let him look around and see how many men and women he can find in middle or later life who are thoroughly well."

* A special lecture delivered before the medical students of the St. Louis University, March 27, 1905.

So far back as history relates we find people of all degrees of civilization making efforts to protect themselves from disease; and, in reviewing the various means employed in comparison with our present knowledge of medicine, we find a great deal that has been done in the past useless or inadequate for the purpose. On the other hand, some of their efforts have availed much and demonstrate to us the possibilities of prophylaxis. It matters not whether they knew the reason for the benefit they derived in any particular regulation or custom; suffice it to say they obtained results, and the value of some of their work in this direction can be rationally explained in the light of modern science.

Preventive medicine consists of all those means used by the individual, the community or the state in the prevention of disease.

Among the primitive peoples we find it to consist chiefly of protection against atmospheric conditions, some regulations regarding food and drink and magic rites, which last has its source in the idea of the demonological origin of disease.

As people become civilized they gradually learned a more scientific view of illness, but to the present day no people has reached so high a degree of civilization as to wholly discard the idea of supernatural causes in relation to disease.

We have evidence that the Ptolemies permitted examinations of the dead to determine if possible the causes of disease, naturally with an idea to prevent it when possible. Unfortunately for science this privilege to study from the dead has not always existed.

Excepting the Japanese, it may be said that the peoples of the East have not advanced very far beyond their ancient civilization in medical matters; however, with the Japanese spirit pervading the East, as it promises to continue, I think we may confidently look for progress. No doubt overpopulation in these countries has had much to do with laxity in sanitary matters, and not having placed themselves in intimate touch with civilization wherever found, as have their neighbors, the Japanese, the people of China and India disregard the simplest sanitary customs of civilization. They have been called the home of pestilence, as the constant presence among these people of the plague and cholera serves to illustrate. The individual has been of little importance to the community, and the state has made little or no effort to protect him.

In contrast with the customs of the Eastern people, observe those of the Hebrew race, which has struggled against adversity and found it necessary to economize their numbers. Some of the earliest directions in matters of hygiene were embodied by Moses in the laws laid down for the care of his people, and to disregard these hygienic regulations was considered criminal. Some of them referred to food, and one considering the isolation of leprosy has come down to our own time, the scope of the latter having been extended with our knowledge of infectious diseases.

The guinea-worm disease which infects people in the tropics can probably be traced back to this remote period, as they are thought to have been the fiery serpents which plagued the children of Israel in the wilderness. Rufus, an Arabian physician of Ephesus, described it well and remarked: "The Arabians suffer from it and many strangers acquire the disease if they drink the water, for that is the chief cause." In these few words we have the cause, which emphasizes the means of prophylaxis; and with our more extended observation of the parasite and its aquatic host, the cyclops, we can add nothing as a means of prevention.

Solomon was known to have interested himself in measures to preserve the health of his people.

The world can never know all of interest and value that was destroyed with the destruction of the Alexandria Library, and it is quite possible that some observations of our recent centuries were recorded in those manuscripts which had been collected from the then known world.

The Greeks cultivating the arts and sciences with considerable zeal did not neglect medicine, and learned to observe the symptoms of disease quite accurately, likewise accomplished something in prophylaxis. The Pythagoreans appear to have introduced the custom of visiting patients in their own homes.

Empedocles, of Agrigentum, showed a certain appreciation of sanitary principles in the following manner: He observed that epidemics of fever ravaged the city with a return of the sirocco, an oppressive wind blowing upon Sicily from the west at certain seasons; to obviate the disastrous results, he advised that a wall be made to close the gorge through which this wind blew upon the city, with the result that the fevers ceased to prevail. Such sanitary engineering would do credit to the present time.

He further demonstrated his knowledge of sanitary science in the city of Selinus, where the stagnant waters of a sluggish stream constantly menaced the health of the city, causing recurring epidemics. To overcome this he directed that two smaller streams be conducted into it which so increased the volume of water as to relieve the unhealthy condition. Would we have done any better today? I fear not.

The Greeks and Romans, recognizing the value of cleanliness and exercise, devoted great attention to the means of securing these advantages, and the historical accounts of their games and the ruins of their baths speak for the part they played in the life of their people.

The gymnasium, an institution developed to its greatest perfection by the Greeks, was an important means of preventing disease, through the care and attention given the physical system. Modern educators are constantly giving the physical training and care of the young more consideration, making it a part of the public school system. Again, people begin to hear and talk of Olympic games and contests as did the ancient Greeks; and while physical culture, as any element in education, may

be abused, the reasonable cultivation of the physical system is as important as the mental.

An important item in the old Greek gymnasium is of special interest to us, viz., massage, and should today be given greater attention by the medical profession. It was considered both an excellent therapeutic agent and a valuable prophylactic measure, especially the latter in that it was thought to retard the degenerative changes incident to old age.

Plato severely reprimanded Herodicus, a gymnasium director, for prolonging the lives of the aged.

If, as historians tell us, luxurious living and dissipation caused the decay of the Roman empire, we should not permit that fact to deter us from endeavoring to emulate their example in matters of cleanliness and of healthful, physical exercise.

These ancient people and those of more remote times were doubtless struggling with the question of pure water which agitates many of our large cities today. In Assyria, Egypt, Greece and Rome we find the ruins of aqueducts and conduits constructed to secure a pure water supply, and those of Rome have remained in such a good state of preservation that in recent times they are again utilized. Hippocrates admonishes the physicians to test drinking water carefully, and especially cautions against the water from marshes.

The garbage question likewise received considerable attention, and the Cloaca Maxima of Rome is still in operation, where such material is burned as is done in many modern cities.

The sewage of these ancient cities was usually drained into the rivers, while in more modern times there have been some efforts of forming the sewage to avoid polluting the rivers. The Cloaca Maxima referred to, drained into the Tiber and as stagnation resulted during high water, Augustus directed that the drains be flushed as is done today.

Hippocrates discusses epidemics, for which he tries to account, and undertakes prophylactic measures.

Erasistratus wrote on personal hygiene, emphasized the dangers of over-indulgence in food and especially does he recommend exercise and diet. This is quite in accord with the famous Regimen Sanitatis Salerni said to have been written at Salerno chiefly for Robert, of Normandy, on his return from the Crusades:

Salerno's school in conclave high unites
To counsel England's king, and thus indites:
If thou to health and vigor wouldst attain,
Shun mighty cares; all anger deem profane;
From heavy suppers and much wine abstain;
Nor trivial count it after pompous fare
To rise from table and to take the air.
Shun idle noonday slumbers, nor delay
The urgent calls of nature to obey.
These rules if thou wilt follow to the end,
Thy life to greater length thou mayst extend.

Among the Greeks we find that Lycurgus advises simple food for his Spartans.

Pliny describes a pestilence which broke out among the soldiers of Alexander the Great on the march to India as a result of eating bad fish, and in Rome for centuries there was inspection of the products sold at the market in order to protect the public from unwholesome food.

During the Dark Ages much was lost and scarcely anything was added to prophylactic medicine as well as science in general.

Coming down to the fourteenth century we find that the plague devastated the countries of Europe, destroying one-quarter of the population of the then known civilized world. Some efforts were made at isolation, but it was ever recurring, possibly because of its unknown existence in the rat, which latter knowledge with our sanitary regulations enables us to avert or promptly check an epidemic.

In the fifteenth century leprosy prevailed, but, in contrast with the plague, isolation could be more easily secured, and it was better controlled.

For many centuries one of the epidemic fevers of Southern Europe was malaria, which began to be brought under control during the seventeenth century, through the discovery of the cinchona bark used by the natives in Peru.

In the latter part of the eighteenth century Jenner added one of the greatest boons to the realms of prophylaxis when he discovered vaccination for smallpox.

In our own country we find the aborigines in their savage, nomadic life not entirely ignorant of preventive medicine. The Indians, in the event of epidemics from which they occasionally suffered, would refer to the great serpent under the ground as the cause of so much illness among their people, and when their incantations did not avail to frighten away the demon, evidenced by the epidemic abating, they would move their village to another site in order to get away from the serpent.

In a sense we may apply the Indians' superstition to the causes of typhoid, cholera and dysentery, especially as they prevail among soldiers in camp life. Science has now demonstrated the demon to exist under and over the ground in the form of polluted water and food, and military surgeons concede that removal of the camp site is of greatest benefit in preventing or checking these epidemics. A fact which the Indians learned through crude observation we have established through scientific research. Soldiers have, however, on some occasions resorted too long to measures scarcely more potent than that of the poor Indian before moving the camp.

The natives of the tropics of this continent especially have long recognized in the bite of certain insects the cause of fevers, as of malaria and yellow fever.

Careful examination has proved beyond question that these are caused

by mosquitoes, and the prophylactic efforts along this line need no more convincing evidence than the fact that, acting upon this hypothesis, the American occupation of Cuba and renovation of its large cities has eliminated yellow fever and much of the malaria from Cuba during the past three years.

Looking to the same end, the city of New Orleans has bonded itself for eighteen millions of dollars, in the expenditure of which they expect to materially improve the sanitary condition of the city, rendering less possible epidemics which in years past have cost the city millions of dollars and many lives.

This excellent example should be followed by other American cities, especially those which have grown to a size which renders their sanitary conditions imperfect and their public institutions inadequate. Any city under these conditions can well afford to carry a liberal bonded debt, established for the betterment of the public in every respect, thus permitting more than one generation to assist in paying for necessary public improvements which would seem a burden for one generation.

The various governments of civilized countries have for years accomplished much in the direction of preventive medicine through the maintenance of a more or less well equipped military and marine medical service.

Our own country has kept well abreast of the world in this direction, and in spite of greatly increased communication with all countries and peoples, the introduction of infectious diseases has been in all recent times well under control. The cases of bubonic plague, yellow fever, etc., which from time to time reach our shores are so quickly quarantined that the people of the coast cities feel secure in the close inspection which safeguards the public from such danger.

While much has been done to protect us from without, less systematic and thorough work has been done in the regulation of the sanitary affairs throughout the country. Some states are developing well-equipped and effective departments of public health, and this individual effort is now being made to conform to a general plan co-operating with each other, which in time, it is hoped, will also co-operate with a central department at Washington under government supervision. The necessity of a bureau of public health is imperative. Such a department could undertake all investigations of food and drugs now to some extent being creditably studied in the laboratory of the department of agriculture. Such a bureau could exercise at least a valuable advisory function in relation to the various state departments.

When each state fully realizes that in medical and sanitary affairs it is only a member of a large family, for which well-ordered, uniform health regulations should exist, the sooner will we see a more perfect system of public hygiene.

When public health institutions cease to be the prey and spoils of

politicians, who wish to avail themselves of the political advantage incident to farming the patronage of such institutions, then, and not till then, will such institutions become what they are designed and should be—institutions for the public first and last, where every rational effort in the study, treatment and prevention of disease may obtain.

According to Theobald Smith, "The first regular organized laboratories for the study of disease were those founded and maintained by the United States government at Washington. After those in this country come the laboratories of the present Institute of Infectious Diseases in Berlin, then the Pasteur Institute in Paris, and later those of other countries."

Our own government is to be congratulated upon this fact, and though the pure food bill has so far gone by default, let us hope that the result of the work in the government, state and private laboratories will win for the measure such convincing evidence that the next congress will approve it, increasing its prophylactic value by including with pure food pure drugs.

This country has been one of the instructors of a very apt pupil, as the recently well regulated sanitary department of the Japanese army emphatically illustrates; in fact, if reports be true, the Japanese have lived more closely to the letter and the spirit of generally recognized hygienic laws than did our own government in some recent military operations.

With a national organization assisting, and being assisted by state organizations, this country can attain as high a degree as any in the results of sanitary regulations.

The public and the state is often attracted more promptly to those things which concerns the financial condition than that which concerns the health of the people.

There has been much profitable work done by the government in prophylaxis, as related to animal and plant industry, *e. g.*, the pyroplasma of Texas fever, resulting in prompt and stringent prophylactic measures in the states affected; the parasite of sheep scab with similar results, hog cholera and chicken cholera may also be mentioned; among plant diseases in which the cause and consequent prevention has been found may be mentioned San Jose scale, and just now the South is much agitated to discover a prophylactic measure against the cotton boll weevil.

It is encouraging for the further knowledge of prophylaxis as related to diseases of man, to note the added interest for original investigation as evidenced during the past few years. The founding of the Rockefeller Institute for medical research is a good omen.

The universities of the country are constantly increasing the facilities for original research, but let us not think that we can observe and discover only in these more favored places.

Koch discovered the tubercle bacillus in a little country place, apart from an elaborately equipped laboratory, and this should make us ap-

preciate the opportunity everywhere present to at least assist in the discovery of some new fact about our science.

Hand in hand with the discovery of the cause comes that of the prevention, and the time has come when every medical school should have some instruction upon preventive medicine, since the physician of the future will be called upon more frequently to protect the health of the individual and of the community.

We are now consulted about numerous hygienic matters, *e. g.*, the danger of uncooked meat conveying trichina or tapeworm, the danger of ptomain poisoning from stale or poorly prepared food, the danger of food preservatives, the danger of metallic poisons in food containers or wall paper, the care of milk and milk products and the purity of water. Improved instruction concerning the last two items has already saved thousands of lives yearly.

In our efforts to prevent infectious diseases we have two resources, *viz.*, isolation and artificial immunization, the latter means being especially practical in smallpox, diphtheria, tetanus and plague, and in time we may discover the cause and then the means of prevention of some of the common diseases of childhood.

After all there may then remain a group of diseases to which we refer as constitutional, for which prophylaxis should begin early in life to overcome if possible inherited or acquired pathological tendencies; often much can be done to improve the development and render the individual strong and more vigorous, capable of resisting diseases which would otherwise greatly endanger him.

The most difficult diseases to control are those of a chronic infectious character, which develop so insidiously that the individual and his associates may be ignorant of the fact until the disease has advanced to a considerable extent, and the state should do all in its power to protect the healthy from the ill.

Consumption destroys 150,000 people yearly, being equaled by only one acute disease, *viz.*, pneumonia. Some of the large cities now require both of these diseases to be under the control of the health department. The city of St. Louis has just placed tuberculosis on the list of diseases to be reported to the board of health, and the state has provided for the erection of a home in a desirable locality where the indigent consumptives, especially, may receive proper care, thus relieving hospitals of cases which are a menace to other patients. In connection with the crusade against tuberculosis, literature upon the subject should be distributed to the afflicted, instructing them in the hygienic measures, to improve their own condition and protect the public.

The history of venereal disease shows that all countries suffer from its ravages, which in its various forms are so far reaching as to occupy a most important place among infectious diseases. With this as with tuberculosis, a certain amount of popular instruction is necessary,

which, coupled with some wholesome regulation, we will hope may accomplish results. Were it not for the fact that it offends the moral code they would be at once placed in the list of infectious diseases, subject to regulation by health boards.

Let us not think that preventive medicine lies only in protecting the individual against infectious and toxic agents; in its broadest sense it may be applied also to the development of individuals, consequently the oft heard expression that "treatment should have begun with the ancestors."

The life of the child should be so ordered that they may attain, as nearly as possible, for their respective condition of life a normal physical and mental development. To secure this result greater attention must be paid to the physical and mental hygiene of schools, more care in the classification of pupils according to their physical and mental capacities.

Efforts in this direction are being made in some of our public schools and those of other countries with considerable success.

Physicians inspect the schools at regular intervals, watching for evidences of infectious diseases, also of defects of vision and, in some cases, any untoward nervous or mental manifestations; they likewise observe the general hygienic condition of the school and its surroundings. This supervision of school life requires some attention to the home life, which function the health department already exercises to some extent in that it has the authority to correct some conditions which may be a menace to the community.

Before closing I must refer to certain obstacles with which, at present, we have to contend in all measures looking to protection of public health: but I believe these will diminish as general and special scientific knowledge becomes more accessible to the public.

Mystery and superstition are frequently observed among the ignorant, and are somewhat in evidence among the more cultured. During the past centuries this fact has enabled unscrupulous charlatans to organize sects and impose upon the public, which, in the consideration of medical questions, cannot always discriminate between the true and the false. Some of those who have originated and promulgated new sects ostensibly for the prevention and cure of disease may have been sincere, but, be their motives what they may, we certainly have the right to question the results, and even to interfere when their acts so far oppose our established sanitary regulations as to endanger others. We can all think of more than one such organization which has come into existence during the present generation. Most of these secure the results which they claim only in so far as the condition which they treat is amenable to mental suggestion, but there is one which aspires to being called a school of medicine whose only claim lies in a so-called knowledge of certain manipulations to relieve and prevent disease. A skilled mas-

seur can accomplish all the beneficial results incident to such manipulation, and the medical profession, recognizing this fact, should not fail to emphasize its knowledge of the subject when the followers of this sect request special rights and privileges.

In closing this lecture, I believe that nothing can more fittingly occupy our attention than a brief review of the work of Louis Pasteur, who has justly been called the father of preventive medicine. Pasteur, an enthusiastic chemist and scientist, not a physician, undertook and solved some of the most important questions in prophylaxis, which, in their results, have been of untold value. His first results in this direction originated in his efforts to help a manufacturer of beet-root alcohol, which industry was suffering severely because of the ignorance of the cause of fermentation and consequent inability to control it. He discovered the cause of fermentation to be micro-organisms which he could control, thus perfecting the alcohol and wine industries of France, saving millions of dollars to his country.

The government of France, attracted by these results, requested him to discover and check, if possible, the cause of the silkworm pest, which had nearly destroyed the silk industry. In five years he had most thoroughly accomplished his task.

During the Franco-Prussian war he recognized the great mortality among the wounded, which to him was further evidence of germ life, and found that it could in a great measure be prevented by heat sterilization of dressings and the use of antiseptics.

Another of his important achievements was the discovery of preventive inoculation for anthrax, practically eradicating a disease which was a great menace to the animal industry of France and other countries.

His final work was the discovery of the preventive inoculation for hydrophobia.

We can scarcely conceive the far-reaching results of this one man's discoveries in preventive medicine, and his work established the following general principles:

Each fermentation is caused by the development of a special micro-organism.

Many, if not all, infectious diseases are produced by the development within the individual of a specific micro-organism.

The micro-organism of some infectious diseases, cultivated under certain detrimental conditions, is attenuated in its pathogenic activity, and from a virus it becomes a vaccine.

So much done by a lay member of our profession should stimulate in all of us the spirit of investigation, and there will long exist abundant opportunity in the many similar questions still unsolved.

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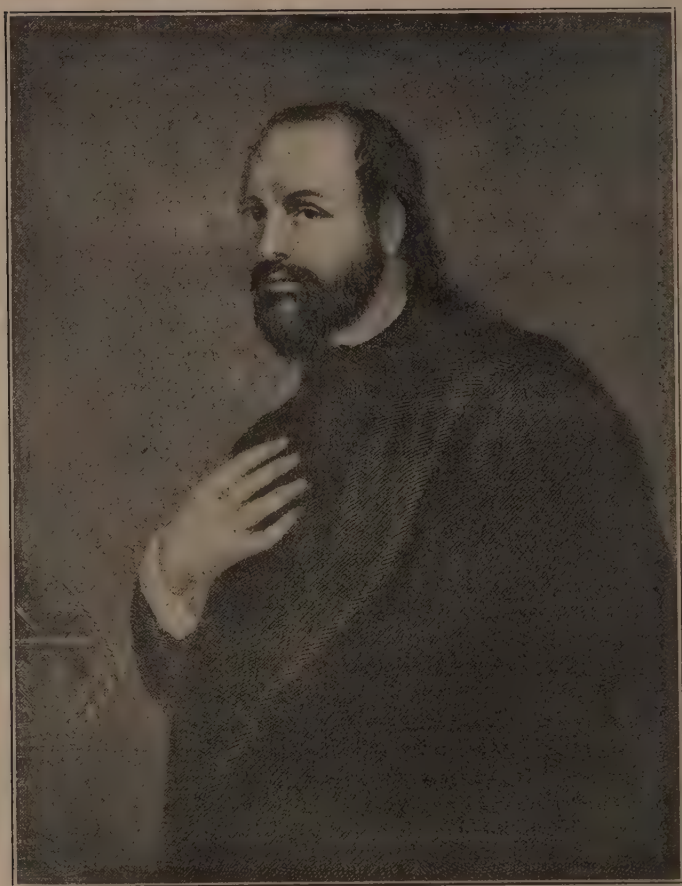
SIR KENELME DIGBY, 1603-1665.

By JAMES MOORES BALL, M. D., of St. Louis, Missouri.

One of the most interesting characters of the seventeenth century was Sir Kenelme Digby, physician, scientist, warrior, mystic, Rosicrucian and Paracelsist, philosopher, cook and literatus. The son of the ill-fated Sir Everard Digby, he was only three years old when the father expiated on the scaffold the part he had taken in the gunpowder plot. Although springing from attainted blood, Sir Kenelme secured ample funds and was given the advantages of wealth. In 1621 he traveled to Madrid with the Prince of Wales, afterward Charles I., and two years later was knighted by James I. From that period until his death he was constantly before the public. In 1628 he served as a naval commander in an expedition against the Venetians and Algerines, whose ships he destroyed off Scanderoon. His victory was celebrated in verse by Ben Jonson. On his return Digby was for years interested in literary and religious subjects. "It is difficult to say to which he was most devoted—his king, his church, literature or his beautiful and frail wife, Venetia Stanley, whose charms fascinated the many admirers on whom she distributed her favors, and gained her Sir Kenelme for a husband when she was the discarded mistress of Richard, Earl of Dorset."*

It is not as the warrior, literary critic, political prisoner, gallant courtier, or member of the Royal Society that Sir Kenelme most interests the medical profession; but it is as an advocate of the Sympathetic Powder that our attention is arrested. This preparation was heralded as a wonderful discovery and attention was first called to it by Sir Kenelme himself in a "Discourse upon the Cure by Sympathy, pronounced at Montpellier, before an assembly of Nobles and learned men." The cure was brought about by dipping a blood-stained garment from the injured person into a solution of the sympathetic powder. The presence of the patient was not necessary, for the cure could annihilate distance. As a proof of this power Sir Kenelme relates many cures. A Mr. Howel's hands were severely cut by a sword. The surgeons applied plasters and bandages; after five days gangrene was feared; a garter, stained with the gentleman's blood, was given to Sir Kenelme, who, without stating what he was about to do, soaked it in a solution of the sympathetic powder. "I do not know what ails me," the patient said, "but I find that I feel no more pain. Methinks that a pleasing kind of freshness, as it were a cold napkin, did spread over my hand, which hath taken away the inflammation that tormented me before." A few days later while dining, Sir Kenelme told the Duke of Buckingham of the wonderful powder; after dinner Digby took the garter out of the solution and dried it before the fire. Immediately a serv-

* Jeaffreson: *A Book About Doctors*, p. 49, New York, 1861.



SIR KENELME DIGBY (1603-1665.)

From the Original of Vandyke in the Bodleian Gallery, Oxford. Engraved by Lightfoot.

ant came to tell the distinguished company that Mr. Howel's hand was paining him, as if "it were betwixt coales of fire." The garter was then replaced in the solution much to the joy of the patient, for he was at once relieved. This decisive case occurred in London in the reign of James I., who believed in Digby's powder. Another way of using the famous preparation was to anoint the weapon causing the wound with some kind of ointment or with lard, and then the sympathetic powder was sprinkled upon the weapon. The patient, of course, knew what was being done for him. His wound was brought together, wrapped in clean linen rags, and left undisturbed for seven days; at the end of this time the wound was usually found to be healed. Gallant warriors, prominent statesmen, pedantic authors, brilliant wits and tiresome clergymen, sounded the praises of this seventeenth century method of faith-healing. The poets had their turn also. Dryden, in the *Enchanted Island*, causes Ariel to say:

Anoint the sword which pierced him with this
Weapon salve, and wrap it close from air,
Till I have time to visit it again.

Digby's powder is said to have been pulverized white vitriol. The secret Sir Kenelme claimed to have had from a Carmelite friar.

The death of this eminent gentleman took place in 1665, and was the occasion of this epitaph by R. Ferrar:

Under this tomb the matchless Digby lies—
Digby the great, the valiant and the wise;
This age's wonder for his noble parts,
Skilled in six tongues, and learned in all the arts.
Born on the day he died—the eleventh of June—
And that day bravely fought at Scanderoon.
It's rare that one and the same day should be
His day of birth, and death, and victory.

To the credit of Digby it must be said that in one of his books, he shows "how one sense may supply the want of another," and describes the teaching of a dumb man to speak. What is now called the beautiful art of "lip reading," Sir Kenelme Digby described two hundred and fifty years ago as "hearing by the eyes." A Spanish nobleman was born deaf and "consequently he was dumb, for, not being able to hear the sound of words, he could never imitate them." A priest undertook to teach the young man and met with great success: "In a word, after strong patience he brought the young lord to speak as distinctly as any man whosoever, and to understand so perfectly what others said that he would not lose a word in a whole day's conversation."

OSTEOLOGY AND THE GENERAL PRACTITIONER.

BY VILRAY PAPIN BLAIR, M. D., of St. Louis.

The vast increase in subjects that have entered into the curriculum of the medical school without a proportionate increase in the time devoted to a medical course has rendered necessary a rigid process of selection of studies. Exactly the same need of selection is forced upon the attention of the practitioner. Not only must he determine which branches he shall retain, but also what parts of these branches add to the utility of his equipment.

The cry is for more scientific practitioners, but the lines between the practitioner and the pure scientist are every day being more sharply drawn, and it is in proportion to the ability of the latter to furnish his science in a predigested form that he is useful to the former, and through him to the world at large.

The mental habit of men who have practiced for years is already established. What they demand is not training, but marketable facts; and presenting these facts in a concentrated, tenable form is the best way to prevent the much overburdened practical men not only from yielding to the consciousness of the impossibility of retaining the whole subject, but also from losing sight of the few practical points in any one branch.

This preamble applies very particularly to osteology. Every physician should know the general plan of the skeleton, and have special knowledge where his practice demands it. It in no way belittles the science of osteology to believe that success depends not upon how much one knows, but upon how much of his knowledge is useful to him. As long as the demands upon the memory of the general practitioner remain beyond his capacity, his practical value will be increased by a judicious limitation of the number of things that he attempts to memorize. In presenting the following I do not mean that the points contained are in themselves sufficient. Without a general knowledge of the skeleton they would be useless, but when one has once learned the bones he retains a fairly good idea of their outline and the size and shape of the epiphyses. Add to this the points to be enumerated, and the general practitioner is osteologically equipped to handle the cases which he is commonly called upon to treat, and when more special knowledge is demanded they will carry him till he can consult.

The Skull.—A straight line from the root of the nose to the occipital protuberance marks the division between the brain case above and the face and neck below. The face itself is composed of processes of bone which inclose a number of cavities, the general relations of which are to be remembered. The roof of the orbits and nasal cavity is formed by the floor of the cranium, which is here very thin. The floor of the orbit

is the roof of the maxillary antrum, while the hard palate is the floor of the nose. The upper molars and second bicuspid teeth are beneath, and may extend into the antrum. The ethmoid cells lie between the orbits and the upper part of the nasal cavity, while below the latter is separated from the antrum by a thin perforated wall of bone. The mouth is bounded laterally by the alveoli and teeth, and the body and ramus of the lower jaw. The nasopharynx is roofed by the base of the skull, while the posterior wall of the pharynx is in relation with the bodies of the cervical vertebrae. With exception of the maxillary and mastoid antra, the accessory cavities do not begin to attain any considerable size before puberty. The antrum opens laterally, while the frontal sinus and ethmoid and sphenoid cells open downward into the nose. The Eustachian tube connects the middle ear with the nasopharynx, while the mastoid cells and antrum have free communication with the middle-ear cavity. The lachrymal canal extends from the fore part of the orbit to the inferior meatus of the nose.

The skull wall in the temporal region is thin and deeply situated. The zygoma stands out free and in line with the middle of its upper border; the middle meningeal artery grooves the deep surface of the skull, while from here its branches extend upward or backward and upward. The supra orbital notch is at the junction with the inner and the outer two-thirds of the upper border of the orbit, while the infra orbital foramen is a quarter of an inch below the middle of the orbit. The meatal foramen is always below the position of the second bicuspid tooth, its vertical position varying with age.

In the *neck* is found the carotid tubercle, at the level of the cricoid cartilage. The transverse process of the atlas can always be felt in front of and below the mastoid process, and the styloid process may sometimes be distinguished further forward. The hyoid bone is situated but slightly below the lower jaw.

The most important thing to remember about the *sternum* is that the transverse ridge, about one and one-half inches below the upper end, is at the level of the second costal cartilages. The lower end of the sternum may be bifurcated or fenestrated.

Of the *ribs*, seven (rarely eight) reach the sternum through their cartilages, while the tenth is the lowest of the connected series. The twelfth rib may be short, and the first or the twelfth may be absent. Ribs may occur in the cervical or lumbar spine.

With the ribs we must consider the *vertebrae*. Of these, omitting the pelvic, the lower in the series are the larger. The neural arches lie behind the bodies in all. The bodies and processes are so formed as to allow flexion, extension, lateral movement and rotation in the cervical spine, rotation in the dorsal, and flexion, extension and lateral movement in the lumbar. The spine in the thoracic and pelvic portions has curves with concavity forward to accommodate the viscera, while in the

neck and lumbar portions there are anterior compensatory convexities. The upper and lower borders of the body of the sternum mark the levels of the second and ninth intervertebral discs, while the body of the fourth lumbar lies close behind the umbilicus in the undistended abdomen. The seventh cervical or first dorsal is the "vertebra prominens." The inferior angles of the scapulæ reach the level of the eighth dorsal spine and mark the seventh intercostal space, while the spine of the fourth lumbar is at the level of the highest part of the iliac crest.

Turning to the *upper extremity*, we start with the *clavicle*, the inner end of which rests on the upper angle of the sternum, while its outer is attached both to the tip of the acromion and the body of the coracoid. It forms the sole bony attachment of the shoulder to the trunk; in its inner two-thirds it follows the curve of the ribs, while the outer third lies transversely, giving the hollow to the shoulder. The outer third of both lie in the same transverse axis. The clavicle, the acromion and the spine of the scapula form a continuous subcutaneous bony line, its most prominent external point being the tubercle of the acromion which is used as a measuring point. Below this bony girdle, from within outward, may be felt the tip of the coracoid, and the lesser and greater humeral tuberosities. The bicipital groove lies between the two latter, while the former makes a convenient measuring point for the inner border of the limb. Both acromion and coracoid partially overhang the head of the humerus, which latter may be felt in the apex of the axilla when the arm is abducted.

Around the *elbow* the three points, internal condyle, olecranon and external condyle, are about on a line when the forearm is extended, the olecranon slightly nearer to the internal condyle. The external condyle is the lower, and the head of the radius may be felt just below it posteriorly. In flexion the olecranon descends so that the three points form a triangle.

In dealing with the *forearm* it should be first remembered that the ulna is attached to the humerus, that the radius which is broad below carries the hand, and that the lower end of the radius revolves around the ulna. When the elbow and the front of the hand rest on a flat splint the lower ends of the ulna and radius do not touch the surface. The posterior border of the ulna is subcutaneous throughout, ending in the styloid process below which does not descend as far as the styloid of the radius. In supination it is the styloid process of the ulna that is felt posteriorly, while in pronation the articular radial surface becomes prominent. He who would disarticulate fingers should remember that the joints are beyond the prominence of the knuckle at distances of about one-third of an inch in the first joint, one-sixth of an inch in the second and one-twelfth of an inch in the third. Owing to the obliquity of the inferior articular surface of the humerus, the radius and ulna, in extension, pass downward and slightly outward, so that the axis of the upper limb passes

through the head of the humerus, the head of the radius and the lower end of the ulna. This gives the all-important carrying angle.

With the *pelvis* proper we shall not deal, as it is included in the obstetrical knowledge of the general practitioner, but it will not be out of place to mention here that the crest of the ilium may be outlined in its entire course from the anterior superior spine in front to the posterior spine behind. The spine of the pubis is always palpable. These points are used in dealing with the lower extremity. The head of the *femur* lies just below the middle of Poupart's ligament and the cotyloid notch of the acetabulum is in its lower part. With the thigh extended the upper end of the great trochanter is at the level of the pubis and may always be identified by rotating the thigh. All bony points about the *knee* are more or less distinctly palpable, and when the joint is flexed a certain amount of rotation of the leg is permitted which will accurately locate the articulation. The adductor tubercle is about the middle of the inner surface of the internal condyle, while the patellar tubercle of the tibia and the head of fibula may be felt on a common level below the joint. Of course everyone is familiar with the outlines of the subcutaneous internal surface and anterior border of the shin bone. The internal surface is continuous below with the internal malleolus. The anterior border is concave externally above to give room for the anterior tibial muscles, and has a reverse compensatory curve below. The fibula forms the external malleolus, while the mass of bone above the ankle joint belongs to the fibula. Unless very special study is given to this part it is somewhat difficult to remember the outlines and to identify all the tarsal bones, but the following points should be kept in mind:

The Foot.—The foot as a whole forms first, a longitudinal arch, the inner border of which is longer than the outer. The former extends from the internal tubercle of the os calcis posteriorly to the distal end of the first metatarsal bone, while the outer border of this arch extends from the external tuberosity of the calcis to the proximal end of the fifth metatarsal bone, which can always be felt as a prominent tubercle about the middle of the outer border of the foot. Besides the longitudinal arch, there is a transverse one most marked at the heads of the metatarsal bones. The outer end of this arch rests on the ground, while the inner end is swung into the highest part of the internal border of the longitudinal arch; the astragalus articulates with the tibia and fibula near the posterior part of the foot, resting below on the calcis. The anterior ends of both the astragalus and the calcis articulate with the remaining mass of the tarsus. The bony points that rest upon the ground in a show-molded foot are the tubercles of the calcis, both ends of the fifth metatarsal bone and the sesamoid bone found under the distal end of the first metatarsal bone.

One of the most difficult things to remember is the times of appearance of ossific centers and union of the epiphyses, but until further research

shows a more practical bearing of these data, I believe the general practitioner will be well equipped with the following points:

All long bones greater than the metatarsal, with the exception of the clavicle, have one or more epiphyses at each extremity. The clavicle has one only, at the sternal end.

The *phalanges* and first metatarsal and first metacarpal bones have epiphyses at their proximal ends, while the remaining metacarpal and metatarsal bones develop them at their heads. That there is an epiphysis at each end of each vertebral body should not be forgotten by him who has successfully treated Potts' disease in the growing spine. The innominate bone is developed by three pieces, which meet in the floor of the acetabulum and unite towards adolescence. The coracoid process of the scapula develops from an independent center. The period of union of these epiphyses is between sixteen and twenty-five years, but a more special knowledge of the following is useful: The head of the humerus has united at twenty years, all of the epiphyses about the elbow at eighteen years and those on the lower ends of the forearm bones at twenty years. The head of the femur has united at about twenty-one years, the lower end at twenty and the upper end of the tibia at twenty-one. The upper jaw is developed by four pieces, the two on each side uniting with the two on the opposite side at the middle, the premaxillary bones carrying the two incisor teeth on each side. The development of the vault of the skull is part of the armamentarium of the obstetrician. Besides the general symmetry of the skeleton, we all know of the homology of the thoracic ribs with the cervical and lumbar transverse processes, which accounts for variations in their respective average numbers. The scapula corresponds to the innominate bone, the humerus to the femur, etc., but owing to the limbs having rotated in opposite directions the tibia and great toe are situated to the inner side of the lower limb, while their homologues, the radius and thumb lie to the outer.

While not exactly a part of osteology I do not think it out of place to mention that the strongest parts of the shoulder and hip joint capsules—the bands that are used as guides in reduction of dislocation by manipulation—pass, in the first instance, across the top of the shoulder joint, and, in the second instance, vertically in front of the hip joint, both bands passing from the edge of the socket to the upper end of the shaft of the bone, not directly to the head:

A subject in close relation to the above would be the muscles which influence the positions of the bones. These are so numerous that they cannot be mentioned here, though they could be selected and grouped to advantage.

PROPER DIET IN THE TROPICS.

By H. W. WILEY, M. D., Washington, District of Columbia.

CHIEF OF BUREAU OF CHEMISTRY, UNITED STATES DEPARTMENT OF AGRICULTURE.

The question of a proper diet in the tropics is of importance in connection with the subject of tropical diseases.

Experience has shown that a change of climatic environment always necessitates a change in the character of the food. It is evident, without elucidation, that a less quantity of animal heat is needed in the tropics as compared with the greater quantity needed in the northern latitudes. As the production of heat is one of the chief functions of food, a corollary of the above proposition is that less food is required in the tropics than in temperate or northern latitudes. In other words, it may be said that if 3,000 calories per day are required at a latitude of 45 degrees, 2,500 per day would be sufficient at the equator.

It so happens that nature provided very abundantly in each zone the character of food which is best suited for those regions. In the colder zones fats and oils are provided, in the temperate zones cereals, meats and vegetables, and in the tropics fruits of every description.

The bureau of chemistry has lately taken up a study of tropical fruits for the purpose of determining their food value. Their general deficiency is in protein. This is supplied by combining with the fruits a diet of nuts, which are usually rich in protein.

The principal starchy foods of the tropics are derived from the cassava or nearly allied plants. One great peculiarity, as has been noted, in the natural tropical food is the small quantity of protein. The recent experiments of Chittenden seem to indicate that even in temperate zones very much larger quantities of protein are consumed than are necessary.

The natural tendency to repose which a tropical climate induces leads to the belief that there is not such a consumption of nitrogenous tissues produced by active physical exercise as in temperate and northern climates. It appears, therefore, that any large excess of protein in a tropical diet is a contraindication. The starch and sugar furnish the heat and energy of tropical diet. It is evident, therefore, that the ratio of carbohydrates and fat to the protein matter is very much larger in the tropics than in the temperate and northern regions. This may seem to be a contradiction of the previous statement that a tropical diet should contain a small quantity of heat-producing elements. This is true only in a mass sense—that is, as regards total quantity, and is not true in the proportional sense—that is, in relation to the amount of protein.

To summarize, a tropical diet should contain less calories than a diet in the temperate regions and decidedly less protein.

EDITORIAL COMMENT.

THE DIFFERENCE.

There are certain places in this world where it is good for a physician to live; there are other places in which it is hard for a physician to live and be good. To a Western physician the study of places belonging to the former class open a field of thought the chief question in which is what is the difference, and why is there such a difference?

To answer these questions would mean a solution of many of the vexing difficulties ever present to those whose lot has been cast in places of the second category. Wherein lies the difference? Many are the differences, and to the observant mind of our visiting physician these differences are more fundamental than they should be. It is a sight to fill him with wonder to note that in this eastern city there is a sincere appreciation by one group of men of the work done by another. He is further mystified by the fact that certain men of one group are not personal friends of the other, but on the common ground of good work done they meet, discuss, praise, condemn, as each sees fit. It is borne slowly upon our observer that there is such a thing as disinterested enthusiasm, for knowledge pure and simple wholly apart from the personalities of those who foster it. In speaking of men in this city it will be found that the usual question is, what has he done, not who is he, and not to what group he belongs. If he has done anything worthy, there is no place to which he may not enter, provided always he goes there in furtherance of his work. For this reason our observer finds that the hospitals, clinics and laboratories are filled with eager workers, no two of whom care a penny for the mechanism involved in getting them there. This creates the mental calmness, the absence of worry, which form so essential a part of the atmosphere of good work. The foundation on which this spirit rests is the influence which a university exerts upon those who come under its power and upon many others who are in contact with it. A curious difference to his own city this represents, where only too often the promise contained in a man's previous training is a bar to the position he is justly entitled to aspire to. On the one hand is the cultivation of latent possibilities; on the other, the sterilization of promising growth. This, and much more, impressed our observer, and he dwelt long in the search for the reasons of the difference; and it came upon him once with great suddenness that the difference was not due to population, environment, climate nor conditions, but solely to the quality and the type of men. He was led in this way to attempt to study the leaders in medicine in these two cities, and he found what he thought was the solution of his problem.

The chiefs of medicine carry with them a peculiar responsibility, for they deal with a science and art that has only partially awakened. They must view the time of their own passing away with calmness or not as they leave behind them those who will and are prepared to further awaken the science which has slept for so long, and the art which has become so choked with bad tradition that its development must begin almost anew.

If this desire is strong in the mind of the leader it becomes strong in the mind of the follower, and thus is created the body of good tradition which connects one generation of physicians to the next. In this desire most of the petty motives, the fundamental jealousies, steadily lose their power to disturb, and the leader opens wide the opportunities which have become his own. To dislike a man but to applaud his work, to see in your own enemy perchance the same power, the same evidence toward something better so apparent to yourself, is part of the task which falls so easily upon the shoulders of a leader. Perhaps, after all, it is just this broader tolerance, just this separation from the smallness of the average which makes the one a leader, and without it the other a follower.

Does all this really exist in the Eastern city visited by our Western physician? Or is this only a dream city, where the gentle physician lives resplendent in the halo of his own virtue. It cannot be a dream city, because there is no need for doctors there.

Perhaps it really exists, and it is there for those who come to see and for those who bring back with them some of the spirit, fanciful though it may be, which seems so prevalent there.

CONCERNING MEDICAL HISTORIES.

In this issue we present several original articles on the history of medicine. In view of the great interest which American physicians have of late manifested in this subject, a few data on medical histories may be not out of place.

It is a subject for regret that English and American physicians have not produced works on the history of medicine commensurate to their contributions to practical medicine and surgery. In this respect we, and our English cousins, are behind the French and the Germans. The French have been busy writing biographic dictionaries of medical men, and composing monographs dealing with particular periods in the history of medicine. The *Dictionnaire Historique de la Médecine Ancienne et Moderne* of Dezeimeris (Paris, 1828-1837) is well worthy of mention. Another valuable work is the *Biographie Médicale par ordre Chronologique*, by Bayle et Thillaye, Paris, 1855. Malgaigne, in his *Œuvres Complètes d'Ambroise Pare*, Paris, 1840, has given a great deal of information concerning the state of surgery in the fifteenth, sixteenth and seventeenth centu-

ries. A noted writer, whose philosophic work was early translated into English, was Renouard (*History of Medicine from its Origin to the Nineteenth Century*, Cincinnati, 1856). A large number of monographs written by eminent French medical historians could be mentioned, but space forbids.

Among the German medical histories we may mention the works of Lessing, *Handbuch der Geschichte der Medizin*, Berlin, 1838; Friedlaender, *Vorlesungen ueber Geschichte der Heilkunde*, Leipzig, [1839; Isensee, *Die Geschichte der Medizin und ihrer Huelfwissenschaften*, Berlin, 1840; Hirschel, *Compendium der Geschichte der Medizin*, Wien, 1862, and Baas, whose work has been translated into English, *Outlines of the History of Medicine and the Medical Profession*, New York, 1889. Puschmann's *History of Medical Education*, London, 1891, is a translation of a valuable work by a noted Vienna professor. However, it happens often that the German history is noted more for ponderosity than for essential merit. In thoroughness, in readability and in logicalness, not one of the works mentioned above can compare with Kurt Sprengel's *Versuch einer Pragmatischen Geschichte der Arzneikunde*, Halle, 1792-1803. The five volumes of Sprengel's masterpiece form a veritable mine from which later writers have taken many valuable treasures, which have been dealt out to the medical profession, sometimes in their original form, sometimes slightly modified.

When now we turn to English and to American works on medical history we are forced into an apologetic attitude. Not that we would decry the value of special articles and monographs, such as have been written by Greenhill, Watson, Dalton, Gross, Pilcher and George Jackson Fisher, but because there exists no monumental history of medicine written originally in the English language. Freind's *History of Physick*, London, 1750, takes up the subject from the time of Galen and brings it to the beginning of the sixteenth century. It concerns chiefly the medical practice of the middle ages. Northcote's *Concise History of Anatomy*, London, 1772, contains much valuable information presented in a jumble of Latin and English. Walker's *Memoirs of Medicine*, London, 1799, treats in a scholarly manner of medicine among the Greeks, Romans and Arabs, of the discovery of the circulation of the blood, and of the state of medicine in the eighteenth century. Hamilton's *History of Medicine, Surgery and Anatomy*, London, 1831, purports to cover the subjects "from the creation of the world to the commencement of the nineteenth century." It consists of two small volumes of 419 and 306 pages respectively. In the same year appeared Moir's *Outlines of the Ancient History of Medicine*, London, 1831, in a duodecimo volume of 278 pages. The sizes of the volumes are mentioned simply to show how some very able writers have attempted to cover vast subjects in a small compass.

Meryon's work, *History of Medicine*, London, 1861, was so severely

criticised that the second volume never appeared. In recent years two valuable English works have appeared by Berdoe, *The Origin and Growth of the Healing Art*, London, 1893, a popular history of medicine, and Withington, *Medical History from the Earliest Times*, London, 1894. Among works of lesser magnitude but of conspicuous merit we may mention South's *Memorials of the Craft of Surgery in England*, London, 1886; Caton's *Temples and Ritual of Asklepios*, 1899; Foster's *Lectures on the History of Physiology*, Cambridge, 1899; and Payne's *English Medicine in the Anglo-Saxon Times*, Oxford, 1904.

In this country, although no complete history has been written—the works of Dunglinson and Park being merely epitomes—considerable creditable work has been done. Thacher's *American Medical Biography*, Boston, 1828, contains a delightful chapter in the history of medicine in America. Thacher's work was continued by Williams, *American Medical Biography*, Greenfield, Massachusetts, 1845. Both of these works contain portraits, as also did Atkinson's *Physicians and Surgeons of the United States*, Philadelphia, 1878. A book which is not generally known, but one which reflects great credit upon the scholarship of its author is Fort's *Medical Economy During the Middle Ages*, New York, 1883. Written by a lawyer, it is a valuable contribution to the history of European morals from the time of the Roman empire to the fourteenth century.

Recently Packard, *The History of Medicine in the United States*, Philadelphia, 1901, and Mumford, *A Narrative of Medicine in America*, Philadelphia, 1903, have placed the profession under great obligations. Wright's *Nose and Throat in Medical History*, St. Louis, no date, shows how interestingly one of the special departments of medical history can be presented.

JAMES MOORES BALL.

MEDICAL AND SURGICAL PROGRESS.

INTERNAL MEDICINE.

IN CHARGE OF

JESSE S. MYER, M. D.

The Alkalinity of the Blood in Acute Exanthematic Infectious Diseases.—KIREEFF (*Centralblatt fuer Innere Medizin*, No. 19, 1905).—The reaction of fresh blood is constantly alkaline to litmus. "The degree of alkalinity varies under normal conditions within certain limits. Various pathological conditions cause even greater variations; among them may be mentioned fever and all acute febrile diseases. Different authorities have reached different results in their determinations of the alkalinity of the blood in fevers, but the most of them have found it diminished.

The author's experiments show the normal alkalinity of 100 ccm. of blood to be equivalent to 159.9—213.2 mg. Na OH.

They found in repeated examinations of fifty cases of acute febrile diseases, such as variola, varioloid, scarlatina, morbilli, typhus, etc., that the alkalinity of the blood either remains normal or is slightly diminished. Typhus exanthematicus was found to be the only exception, invariably showing an increased alkalinity. He lays stress upon this point as an aid in the different diagnoses.

Acute Primary Colitis.—KOKORIS (*Wiener Klinische Wochenschrift*, No. 20, 1905,) calls attention to the fact that acute primary processes in the colon, and especially the ascending colon, may simulate appendicitis and perityphlitis, and may be readily mistaken for such. The variations in the position of the appendix necessarily render the diagnosis of such conditions in the colon all the more difficult. The author recites a case in which the clinical symptoms throughout were typical of appendicitis, while the autopsy revealed a perfectly normal appendix and cæcum and a localized inflammatory and ulcerative process in the ascending colon.

The Value of Large Doses of Olive Oil in the Treatment of Diseases of the Stomach.—BLUM (*Berliner Klinische Wochenschrift*, No. 20 and 21, 1905,) conducted a series of observations with a view to determining the influence of olive oil upon different diseases of the stomach. He found that it was borne badly in large doses, and that very few stood small doses well. In cases of hyperchloridria, with or without hypersecretion, the oil acts favorably in the reduction of the acidity. It improves the condition of the bowels and improves nutrition. However, these effects were not permanent.

In ulcer of the stomach and duodenum, as well as in organic stenosis of the pylorus, a favorable influence was not noticed. In fact, oil seems contraindicated in pyloric stenosis of a marked degree. In a case of spasm of the pylorus the oil gave no results whatever.

A Case of Glycosuria Following the Therapeutic Employment of Quicksilver.—FAUCONNET (*Muenchener Medicinische Wochenschrift*, No. 20, 1905,) observed the development of glycosuria in a luetic patient who was receiving injections of mercury. The relationship between the mercury and the glycosuria seemed self-evident. There were no other evidences of intoxication. The glycosuria developed after the patient had established a certain degree of tolerance, and after there had been an accumulation of the drug in the organism. There was nothing to point to a kidney lesion of any kind, nor was it possible to prove that the phenomenon was due to a transitory disturbance of metabolism. In order to have cleared up the case satisfactorily it would have been necessary to examine the blood quantitatively for sugar, before, during and after the cure. This, however, was not possible.

Though the author considers the phenomenon the result of an idiosyncrasy, he feels that this case should prompt those using mercury to examine systematically for sugar, as has long been the custom for albumen. Only in this way will it be possible to learn how often glycosuria occurs as the result of mercury injections.

Dangerous Complications in the Starvation Treatment of Peptic Ulcers of the Stomach.—REICHMANN (*Archiv fuer Verdauungskrankheiten*, Vol. XI, part 2,) calls attention in the article to two disturbances which often accompany the starvation treatment of peptic ulcers of the stomach. One of these complications is rapid loss of strength in the early part of the treatment. This is often so marked that it leads to fainting attacks, disturbances in the heart's action, palpitation, dyspnoea, etc. When this train of symptoms arises it becomes necessary to interrupt this treatment and resort to some other. This complication is most apt to occur in neurasthenic individuals.

The second complication which the author has observed is the development of inflammatory processes in the parotid gland, with pus formation and all of its consequences. He has met with but three cases in twelve years' experience in the treatment, but attributes this to prophylactic measures which he has adopted in these cases. Though no bacteriological examinations were made, he attributes this phenomenon to the accumulation of pus producing bacteria in the mouth, due to the absence of motions which cleanse the mouth when eating and the diminution of the salivary secretions. One of these factors mechanical and the other physiological are in a measure dispensed with in those taking starvation treatment, and bacteria are thus permitted to accumulate in the mouth. The author for the past few years has avoided this unpleasant complication through the frequent cleansing of the mouth, teeth, gums, etc., with a 4 per cent. boric acid solution. Since adopting these measures he has not met with a single case.

In spite of these unpleasant occurrences, however, the author still highly recommends this procedure in the treatment of peptic ulcer of the stomach.

Pathogenesis of Colic.—NOTHNAGEL (*Archiv fuer Verdauungskrankheiten*, Vol. XI, part 2), in view of the recent discussion concerning intestinal colic, considers the subject here at some length, with special reference

to the history of colic and its pathogenesis. He believes that the pain has its origin in the intestine, and that "colic," in its pathogenesis and its clinical picture, must be considered a special kind of intestinal pain. The primary factor in its development is a tetanic contraction of the muscle fibers of the intestine. The tetanus leads to an ischæmia or anæmia of the walls of the intestines. The anæmia in turn produces an adequate stimulation, through which the sensory nerves of the intestines are irritated, and paroxysms of pain are the result. The author is unwilling to state definitely whether this theory may be applied to other organs with unstriated muscle fiber.

SURGERY.

IN CHARGE OF

WILLARD BARTLETT, M. D.

Ligation of the Aorta; Its Physiologic and Therapeutic Meaning.—KATZENSTEIN (*Archiv. fuer Klinische Chir.*, Band 76, Heft. 2).—The author has done a large number of animal experiments in the effort to show the various results which may follow ligation of the largest artery. In fact, he did 105 experiments upon 45 animals, most of them dogs, and came to the conclusion that the peripheral pulse ceases at once if the vessel be completely occluded. Moreover, he proved that this had not been completely accomplished in many of the cases where this operation had been performed upon the human. He proved, too, that the arterial tension increases greatly and remains so during the days following the operation, although certain circumstances may prevent an immediate increase after ligation. He showed that the collateral circulation which prevents gangrene of the extremities, is established in an immense number of vessels too small to be named, both those in muscles and others. It is interesting to note that a tremendous hypertrophy of the heart takes place as an evidence of nature's effort to overcome the obstruction in the circulation. The paralysis of the lower extremities and bladder is shown to be of a peripheral type and to have nothing to do with an anemia of the spinal cord. Degeneration is seen in the muscles and great disturbance in the circulation is noted in the wall of the bladder, leading sometimes to perforation, but usually these manifestations are transitory. This operation has been done fourteen times upon the human, and in every instance the operation has produced death directly as our author shows, although in one or two instances this was considerably delayed. The operation can promise absolutely nothing of therapeutic value. It should, of course, never be done for hemorrhage, because there are easier ways of controlling the same, and as to curing an aneurism of the aorta, that is impossible, since the vessels which go off lower down will very soon develop enough to supply the sac with plenty of blood. A serious heart lesion follows it, the aorta may rupture at the site of ligation and in addition to being very dangerous the procedure can do no good.

Comparative Surgery with Illustrative Cases.—FARRIS, THATCHER, ORTSCHILD and BEALL, and an Introduction by Harvey Cushing (*Bulletin of Johns Hopkins Hospital*, May, 1905).—We have in this article another evidence of the painstaking work that is being done at Johns Hopkins towards improving our methods of teaching surgery. Dr. Cushing urges the importance of a veterinary hospital in connection with this work. He shows plainly that the cadaver can never be useful in the highest sense for the teaching of surgical technique. This should be done upon animals, and the operation should be carried out for pathological conditions just as they are in the human wherever possible. This can never be done upon healthy animals, but is only possible where we have diseased specimens, and where we have facilities for taking care of them. The various amputations and ligations which are taught upon the cadaver are rarely ever done on the living, and surely the student does not in this way learn to control hemorrhage and to practice asepsis, hence the value of Cushing's new idea. In Baltimore, when a diseased dog is taken in, histories of similar human patients are used, and in this way all the details of such a case are studied. In the article which is the subject of this review there are reported thyroid cysts, uterine prolapse, inguinal hernia and several tumors on the dog. The article is certainly worthy the perusal of all who are engaged in the teaching of surgical technique.

Complete Section of the Ulnar Nerve of Fourteen Years' Standing Cured by Operation.—CHAPUT (*Bullet. et Mem. de la Société de Chirurg., de Paris*, May 23, 1905).—This patient had all the characteristic symptoms of the injury mentioned with atrophy and anesthesia in the region involved. The author operated, resecting a small neuroma on each end of the divided cord, then he split the upper end and invaginated the lower into it with a catgut suture. Two weeks later the anesthesia had disappeared and motion had commenced to return. There has been steady improvement since and the author calls special attention to his method of reuniting the ends.

The Results in the Heidelberg Clinic Obtained by the Operative Treatment of Intestinal Obstruction.—SIMON (*Beit. zur Klin. Chirurg.*, Band 45, Heft. 3).—At Heidelberg, as elsewhere, the results in this line of work have been none too brilliant owing to the fact that the cases, even from the best internists, were delivered too late to do any good most of the time; still, enough cures were accomplished to serve as a matter of encouragement for future surgical efforts. The obstruction was due in seven instances to strangulation by bands, and of these patients two recovered. In one of these a resection had been made. Where the trouble was due to volvulus of the sigmoid, the characteristic local distention was no longer to be made out, because the cases were always too late. Where the obstruction was due to shrinkage of the mesentery, or to some external anatomical change other than strangulation by a band, the symptoms were gradual in their onset and there was always a history of intestinal colic, whereas the onset was always very acute in strangulation. Ten patients in this class were operated upon and five recovered. The important symptom of sigmoid obstruction is always distention of

the cæcum, and is especially marked if the case is seen early. Obstruction due to the passage of a large gall stone through the intestine is usually accompanied by the affected loop dropping down into the pelvis and the symptoms being originally referred to this site. The author can hardly make a definite choice in all cases between the large incision with complete eventration and the small incision, but he is very positive that the intestine should be opened where it is greatly distended, and where it obscures the field. Where peritonitis is a prominent feature an intestinal fistula is of the greatest value.

Prevention of Shock and Hemorrhage in Surgical Practice.—CRILE (*Journal of the American Medical Association*, June 17, 1905).—Shock is compared to hemorrhage, and it manifests itself as an intravascular bleeding; that is, a lowering of the blood pressure in the arteries and an increase in the veins. In operations upon the head where there is increased intra-cranial tension, there is a corresponding increase in the general blood pressure, and this must be maintained if danger is to be avoided, hence the author frequently opens the skull under local anesthesia. Alternate heat and cold will incite respiration where this has been seemingly interrupted. The careless use of chisel and mallet in opening the skull may produce very grave changes in the medulla, hence this is to be done with the greatest caution. In many instances clamping of the common or external carotid will be of the greatest value in operating about the head and face, though this is not true of all patients. It does not obviate venous hemorrhage, this being best done by the head-up posture. Stimulation of the superior laryngeal nerve may result in inhibition of the circulation and respiration, hence it is always well to give a dose of atropine or paint the interior of the larynx with cocaine before attempting operation upon this membrane. In amputating the extremities the author uses the same careful dissection technique that he does in working on the breast and axilla, ligating the vessels and doing no general retraction en masse.

The Treatment of Gangrenous Prolapsed Hemorrhoids.—BARACZ (*Centralbl. fuer Chir.*, No. 17, 1905).—The old way was to replace the tumors and allow them to slough, but the author makes the very sensible suggestion that we should if possible remove from the patient the constant danger of infection which remains present if he is treated in the way above named. Consequently he suggests that we clamp off the tumors and cauterize them very much in the same way that we would do if we were operating upon a non-gangrenous case, the only difference here being that he cuts off the mass and cauterizes the stump, whereas in an uncomplicated case he would simply allow the mass to separate itself when nature willed it should after burning.

An Experimental and Histological Study of Cargile Membrane.—CRAIG and ELLIS (*Annals of Surgery*, June, 1905).—This interesting article will certainly prove of value to surgeons even though it be, so to speak, of a negative value. In it is shown conclusively that the Cargile membrane accomplishes practically nothing, consequently surgeons will be spared much of the bother which it may have occasioned some in the past.

Neither the chromacised nor the plain Cargile membrane can prevent adhesions in the peritoneal cavity. There is something to show that the chromacised variety does a little good in preventing adhesions when it is wrapped around nerves or tendons. It would seem that the membrane is destroyed by a lytic substance contained in the body fluids. The experiments are too numerous and too rich in detail to allow of a full review in these columns, but to those interested in this subject a perusal of the original article is warmly recommended.

DIAGNOSIS.

IN CHARGE OF

A. E. TAUSSIG, M. D.

Auscultatory Percussion of the Lung.—REINHARD VON DEN VELDEN (*Deutsche med. Wochenschr.*, No. 15, 1905).—The various methods of performing percussion may be grouped under three headings: 1. Percussion, pure and simple, of varying degrees of loudness. 2. Percussion combined with palpation. 3. Percussion combined with auscultation. The writer suggests a new modification of the last-named variety. The physical constitution of an organ influences not only the sound which it emits upon percussion, but also the manner in which that sound is transmitted through the organ itself. The writer advocates the following method of utilizing this fact: The percussion, done by an assistant, is performed by the finger on finger method and as gently as possible. Only the interspaces are percussed since the sternum and ribs have notes of their own that interfere with the detection of variations in the pulmonary resonance. The observer sits on the other side of the patient, placing his ear or his stethoscope in the supraspinous or infraspinous fossa or between the scapulæ, as the case may be. The assistant percusses very gently, proceeding horizontally along each intercostal space. The sound passes directly through the lung and is altered by even the slightest change from the normal in the pulmonary tissue. The normal lung transmits a somewhat prolonged, almost musical tone of moderate intensity, whereas the slightest pulmonary infiltration tends to make the note less musical, shorter and louder. There is considerable difference in the note produced over the normal lung during extreme inspiration and expiration, the latter being somewhat lower in pitch. This difference is the less marked the greater the degree of infiltration.

The writer believes that his method not only will demonstrate the site of the lesion where auscultation and ordinary percussion fail, but that by means of the difference between the inspiratory and expiratory note it will demonstrate the extra-pulmonary nature of certain lesions such as muscular hypertrophies, fatty tissue, thoracic deformity and the like, where the usual methods of auscultation and percussion might lead to the diagnosis of pulmonary disturbance.

Premenstrual Fever in Tuberculosis.—KRANS (*Wien. med. Wochenschr.*, 1905, No. 13) calls attention to the observation that in tuberculous women there is very constantly a rise in temperature just before the onset of the menstrual period. He believes that this has a certain amount of diagnostic value. An examination of the lungs made during this period of elevation of temperature usually reveals an increase in the auscultatory signs, a phenomenon that suggests that following the injection of tuberculin.

Koplik's Spots in Measles.—H. BRUNING (*Deutsche med. Wochenschr.*, 1905, No. 10).—Since Koplik's first observation in 1896, the diagnostic value of the spots discovered by him has been much disputed. The writer, however, concludes as the result of the observation of a large number of cases of acute exanthems, that, properly observed, the spots are an absolutely pathognomonic sign of measles, being never missed in this disease and never found in any other.

Blood Pressure in Certain Neurosis.—HASCOVEC (*Wien. med. Wochenschr.*, 1905, Nos. 11-17).—Contrary to the results of Strauss, Hascovec concludes on the basis of very numerous observations that a high blood pressure is of no diagnostic value in the various neuroses, especially those of traumatic origin. In eleven of his cases, all of them neurasthenic men, he found the blood pressure subnormal. A diagnostic value can be ascribed to such measurements only if it is known what the blood pressure of the individual was before the attack or the accident.

In epilepsy and paresis, he usually found atony of the vessels showing itself in a reduced blood pressure. In Graves' disease there was a high blood pressure that diminished with the disappearance of the exophthalmus.

Pleuritic Effusions in the Aged.—COURTOIS-SUFFIT and BEAUFUME (*Gaz. d. hop.*, 1905, No. 43).—Old people rarely present the typical physical signs of pleuritic effusion. A dullness on percussion over the lower portion of the lung usually indicates an effusion, even if the auscultatory observations fail to confirm the diagnosis.

A New Test of Diabetic Urine.—C. STRZYZOWSKI; RABOW (*Therap. Monatsh.*, 1905, No. 2).—If one part of formal (40 per cent. solution of formaldehyde) be added to twenty parts of diabetic urine, a greenish fluorescent color appears on standing twenty-four to forty-eight hours in a certain number of cases. This reaction varies in intensity according to the amount of abnormal metabolic products (acetone, oxybutyric acid, acetoacetic acid, etc.) present. Numerous observations have led Strzyzowski to the conclusion that the absence of this reaction indicates a mild form, its presence a severe form of diabetes. The reaction is not due to any of the above-mentioned pathologic products, but to some substance as yet unknown.

Rabow reports two cases in which he made use of Strzyzowski's reaction. In the first, a mild case, the reaction was negative; in the second, a grave one ending in coma, the reaction was strongly positive.

Significance of Pain in the Left Half of the Epigastrium.—RIEDEL (*Muench. med. Wochenschr.*, 1905, No. 17).—According to Riedel's experience, left-sided gastric pain speaks for an ulcerative process in the middle portion of the stomach. He reports twenty-eight cases of this sort, in which the diagnosis was confirmed by operation. Pain referred to this portion of the abdomen is practically never reflex from a disturbance elsewhere.

THERAPEUTICS.

IN CHARGE OF

WALTER BAUMGARTEN, M. D.

The Influence of Urotropin on the Development of Scarlatinal Nephritis.—PREISICH (*Therap. d. Gegenwart*, 1905, No. 5, p. 211) has repeated the work of Widonity, using as his material 1,200 cases of scarlet fever admitted to the St. Ladislang Infectionsspital in Budapest. Half of this number (600) was given 1 to 7 grains of urotropin three times daily for the first three days after admission, and again for a similar period, beginning with the fourteenth day. The other half was not subjected to this treatment. In the first group (treated) nephritis developed in 9.16 per cent.; in the second group in 13.66 per cent., the latter presenting a much greater number of severe cases. The difference becomes more striking when the percentages of nephritis in each group are compared according to the day of illness (*i. e.*, scarlet fever) on which the administration of urotropin was begun. The percentages of nephritis in cases admitted on the second day of illness do not differ (9.8 per cent. in each group); on the third day 7.4 per cent. in the treated group; 13.6 per cent. in the untreated group; on the fourth day 10 per cent. as compared to 15 per cent.; on the fifth day 8.9 per cent. as compared to 25.6 per cent.; demonstrating that except in cases coming under efficient general treatment at the earliest moment, urotropin diminishes to a marked degree the effect on the kidneys of the scarlatinal toxæmia.

The Therapeutic Application of the Roentgen Rays in Addison's Disease.—GOLUBININ (*Therap. d. Gegenwart*, 1905, No. 5, p. 203) reports a case of Addison's disease, the probable tuberculous basis of which he assumes to have proven by successive, careful tuberculin injections. On the further assumption that unless caseation has occurred such granuloma may undergo atrophy when exposed to the x-ray; he subjected the patient to twenty-five x-ray treatments, distributed over thirty-five days. Both kidney regions were exposed from the direction of the anterior surface of the body for periods of three to eight minutes each, the tube being placed 25 cm. from the anterior abdominal wall. An immediate improvement was seen in the patient; he gained in strength and weight, the heart sounds became strong, digestion increased markedly, and the pigmentation of the hands and face diminished. A subsequent course of twenty-five exposures resulted in such marked improvement that the patient was able to return to his professional duties—those of an army officer.

The Treatment of Spastic Constipation.—ALBU (*Therap. d. Gegenwart*, 1905, No. 5., p. 204) distinguishes two forms of chronic constipation—the first, and by far the most common, due to atony of the intestine; the second, much less frequent in occurrence, due to a spastic contraction of the muscular wall of the intestines, developing in neurotic individuals on the basis of a previous atonic constipation. It is the latter which Albu discusses. He considers it in many instances analogous in character to the globus hystericus, spasm of the cardia of the stomach or of the pylorus. The spasm of the muscularis of the intestine or of parts of it develops at varying intervals for periods extending from hours to days or weeks. The spasm may be felt as abdominal discomfort, varying from mere uneasiness to severe colic. Objectively, the contracted band of the ascending or the descending colon can be felt, and when the rectum or sphincter ani is involved, the introduction of the finger meets with great resistance and causes great pain. Associated with this spasm may be some degree of enteroptosis, particularly involving the colon, and also a mucous colitis.

In treatment of the condition any measure which may act as a stimulant or irritant to the intestinal muscularis should be avoided, especially massage and laxatives. All therapeutic efforts should be directed toward allaying the irritable condition in which the muscular coat of the bowel is. To this end the following measures are outlined:

1. Warm or hot baths, either full or sitz baths, lasting ten to fifteen minutes, at a temperature of 30–35° R.

2. Hot applications to the abdomen, which may be either dry or moist.

3. Warm oil enemas of linseed, sesame or castor oil, in quantities of eight ounces, given every night as a high enema.

4. As a medicinal sedative in combatting the painful muscular contractions, atropin has proved of great value.

5. The diet should consist largely of vegetables which have been carefully prepared and from which all coarse masses of cellulose, which are likely to become irritant, such as hulls, skins, fibres, have been removed. Such diet may include all forms of wheat bread made of fine flour, vegetables which can be prepared as purees, soups, gruels, milk, and cooked fruits. Alcoholic beverages, condiments, cabbage, cucumbers, lettuce, radishes and cheese should be rigidly excluded.

6. Local treatment: A hard-rubber or metal bougie may be introduced into the rectum for a distance of 5 to 10 c.m., and allowed to remain for ten to fifteen minutes each day. This is of especial value in spasm of the sphincter ani.

PATHOLOGY AND BACTERIOLOGY.

IN CHARGE OF

CARL FISCH, M. D.

Investigations About the Etiology of Smallpox, Foot and Mouth Disease, Scarlatina and Syphilis.—JOHN SIEGEL (*Abhandl. K. preuss. Akad. d. Wiss.*, 1905).

Investigations About the Nature of the Vaccinia Microbe.—S. PROWAZECK (*Deutsch. Med. Woch.*, 1905, No. 19).

Finding of Spirochaetes in the Lymphatics of Syphilitics.—FR. SCHAUDINN and E. HOFFMANN (*Deutsch. Med. Woch.*, 1905, No. 18).

Appearing nearly simultaneously these papers have a bewildering and startling effect through the remarkable heterogeneity of the results obtained in the attempt to elucidate etiologically so far obscure diseases. This heterogeneity is the more surprising, as all of the papers are imbued with the teaching and training given the authors by one and the same laboratory, that of Schaudinn. In this laboratory Siegel has for years studied protozoa to prepare himself for his work; Prowazek has been for years the assistant of the director, of Schaudinn himself. It would be impossible in a short review to give an idea of the contents of the papers and of the conclusions the authors arrive at. While Prowazek restricts himself mainly to very ingenious investigations and experiments as to the nature of the vaccine bodies, proving irrefutably that they cannot be the parasites nor that they can carry out in vaccine or smallpox lesions a cycle of development, as alleged by Councilman and Calkins, he suggests their cellular origin on the basis of the modern teachings of cytology on certain cellular constituents present in normal cells and affected in the intoxicated cell with the result that the peculiar vaccine bodies arise from them. His belief seems to be that the real vaccine microbes are ultra-microscopic.

Schaudinn reports shortly and with great restriction his observations on the presence of a spirochaete in syphilitic lesions without directly connecting them with the etiology of the disease, although suggesting that they might be to be considered in this direction. This work receives a great deal of weight, if we remember that Schaudinn was the first to show that spirochaete is not a bacterium, but represents a stage in the development of a protozoic organism nearly related to the trypanosomas. These investigations throw a new light on the character and peculiarities of human and animal spirillum diseases so far not understandable from the bacterial point of view. Schaudinn's findings in syphilitic products have, since his publication, been confirmed by other observers. As to their meaning, for the present nothing definite can be said.

The paper published by Siegel is remarkable by the fact that he believes that he has unraveled in a comparatively short time the mysteries of four infectious diseases, the etiological factors of variola, foot and mouth disease, scarlatina and syphilis. In all of them he has found a minute organism, all of them belonging to the genus cytoryctes, a group that must be classified with the sporozoa and flagellates. They are found

not only in the specific lesions, but everywhere in the infected organisms in the form of minute motile bodies, provided with cilia and two nuclei. Their multiplication occurs by longitudinal fission or by multiple divisions, leading to the formation of larger masses, surrounded by a thick cytoplasmic envelope and called cystopores. The latter can again split up into sporozoites. On the whole, the organisms in the four diseases resemble each other closely, differing only in certain characteristics. So, for instance, in the foot and mouth disease the development of the parasite takes place within the nuclei of the afflicted cells, while in variola, scarlatina and syphilis it is cytoplasmic. The larger masses formed by the growth of the motile bodies represent the *guarnieri*, or vaccine bodies. So far we can only judge from the descriptions given by Siegel of his findings; the microphotographs given by him to illustrate them are too imperfect to allow of any conclusions. If we may go by the judgment of so authoritative a man as F. Eilhard Schulze (*Berl. Klin. W.*, 1905, No. 21), he had really to deal with ciliated, immensely motile organisms. On the other hand, so little is said about the avoidance of mistakes arising from degenerative processes in the infected cells that the suspicion is justified that here the explanation will be found. An absolute verdict can only be arrived at by a thorough and critical repetition of the work done by Siegel. Above all, our knowledge on degenerative changes in infected cells ought to be as complete as that of the developmental stages of protozoa. How, in this way, a fascinating and appealing construction like that of Councilman and Calkins of the life cycle of the cytoryctes variolæ can be shattered has lately been shown by Ewing. We cannot suppress the fear that Siegel's assertions will soon meet with the same fate.

Contributions to the Histogenesis of the Nervous System.—OSCAR SCHULTZE (*Arch. f. Mikrosk. Anatomie*, Vol. 66, Heft 1).—This work, that by an original method establishes the multi-cellular genesis of the peripheral sensible nerve fibres and the presence of an universal end-network of sensible neuroblasts in the larvæ of amphibia, is a most important contribution in confirmation of the modern views held on the structure of the nervous system. It ranks equal with the beautiful study published by Prentiss on the nerve cell fibre network in the palate of the frog. It affects determiningly the hotly-discussed problem, whether Waldeyer's neuron theory can be accepted; it affects, too, pathologic problems, as to a certain degree it must lead to a modification, at least, of Waller's law of degeneration. Here only the general conclusions at which Schultze arrives can be given.

He has shown that the embryonal, nucleated, sensible fibre is nothing else but a multitude of cells or a syncytium arisen from a number of neuroblasts. This syncytium is not produced by a secondary union of the cells, but by continuous preservation of intercellular connections after the mitotic divisions. The morphologic continuity of the elements of the nervous system is primary, innate. These neuroblasts are the myelin-forming elements. There are no Schwann cells that peripherally attach to the fibres. As far as the peripheral neuroblasts become nerve fibres, the nucleus is pushed to the periphery, to the inner surface of the cell membrane, the neurilemma. The question, whether the

so-called units or elements of the nervous system are in continuous connection with each other—or, in other words, form nerve-cell networks—is answered in the confirmative by the author's demonstration of such a network for the integument of the body. Besides this, networks have been described for various other regions and organs of the evertbrate and vertebrate body. The neuron theory cannot be reconciled with this syncytial structure of the peripheral fibres, much less with the presence of neuroblast (and nerve-cell) networks. No unobjectionable evidence exists for the outgrowth of fibres from the center, while we have positive evidence that the nerve fibres are formed in loco by definite cells. Whether the neurofibrils or the intermediate substance represent the conductive substance we do not know, although the former assumption is very probable. Therefore, for the present, the emphasis laid on the neurofibrils or on the time of their appearance is of less importance. The main fact is that it is clear that neuroprotoplasm does not grow out and is not primarily discontinuous, but from the beginning represents a continuum, a syncytium, thus solving after a simple principle the problem of furnishing the governing apparatus for the multifold functions of the animal organism.

GYNECOLOGY AND OBSTETRICS.

IN CHARGE OF

HUGO EHRENFEST, M. D.

Partial Contractions of the Uterus and Errors of Diagnosis Caused by Them.—PAUL BAR (*Bull. de la Soc. d' Ob. de Paris, rev.; Am. Jour. of Ob.*, May, 1905).—The writer calls attention to his observation that during the latter part of pregnancy segments of the uterus contract, while other portions remain relaxed, so that the contracted portions appear like tumors. This contraction may persist during a single gynecologic examination, while at the time of the next examination the apparent tumor will have disappeared. These same partial contractions may occur in the course of labor and then again simulate tumors. There may be difficulty in differentiating between such contracted portions of the uterus and pregnancy in one horn, extrauterine pregnancy, or a complicating myoma. Such contractions may be very painful. The author calls attention to the fact that in animals that have a bicornuate uterus, one side of the uterus contracts while the other remains relaxed.

[This phenomenon is well known and is mentioned, *e. g.*, in Ahlfeld's *Text-Book of Obstetrics*, published in 1898. In *Zeitsch. f. Geb. u. Gyn.*, vol. xlvii, 1902, Ahlfeld describes a most interesting observation of such an apparent myoma of the uterine wall during labor. This patient died and at the post mortem examination it could be positively ascertained that the uterine wall did not contain even the smallest tumor.—EDITOR.]

A New Method of Treatment of Condylomata Acuminata.—M. SCHEIN (*Wien. klin. Woch.*, No. 5, 1905).—The use of the thermocautery, of chemical caustics and the knife in the treatment of venereal warts entails numerous disadvantages, necessitates assistance, implies the danger of a hemorrhage and is always painful. The author's method seems free of these shortcomings. He produces necrosis by freezing. An ethyl-chloride spray is directed against the condylomata until they become anemic and white, the surrounding tissue being protected by gauze or cotton. The pain resulting from this procedure is very slight, if occurring at all. Within a few days the growth has become necrotic and falls off. Only in exceptional instances it is necessary to repeat the procedure twice or three times.

Are There Any Histologic Characteristics for a "Benign" Chorioepithelioma?—HOERMANN (*Zeitschr. f. Geb. u. Gyn.*, vol. liv, Heft 2).—In a resume of the gynecologic literature of the past year (January number of this journal) we had occasion to refer to the several attempts which have been made to find a histologic feature in chorioepithelioma which would enable us to differentiate between the benign and malignant type of this new growth. We mentioned in this connection a paper of Velits, who claims to have found such a characteristic microscopic picture. Hoermann repudiates Velit's claim and considers this problem still unsolved.

Perforation of the Living Child in Maternity Hospitals.—R. KATZ (*Monatsch. f. Geb. u. Gyn.*, April, 1905).—This very interesting article is written as an answer to a paper recently published by Veit, in which he dogmatically states that the perforation of the living child never seems permissible. Veit claims that the necessity of such an operation is obviated if every case which may necessitate perforation of the fetus is sent to a hospital, in which a Cesarean section or symphysiotomy can be safely performed. The author takes exception with the views of Veit, and proves on the hand of 7,000 confinements that under certain conditions the perforation of the living child is absolutely unavoidable from a scientific point of view. The mortality of Cesarean section or symphysiotomy would be practically *nil* if performed only upon uninfected patients in a good general condition. But decidedly different are the results of these operations in cases which have been under the care of unclean midwives, if physicians made futile attempts of delivery with instruments, if the bladder or uterus are injured, and this is the case in a considerable percentage of the patients brought into a maternity hospital. An infected patient runs a smaller risk with a perforation of the child that probably has suffered from the effects of the protracted confinement and has only a small chance to live. There is a decided prejudice prevalent among the public against Cesarean section. Many patients absolutely refuse to submit to a laparotomy, but they must be delivered in some way. The author concludes that it is the duty of the physician to popularize Cesarean section, that it seems unavoidable to perforate even the living child under certain conditions, in the hope that at the time of the next confinement the patient will apply at the

hospital for help early enough to have the child's life saved either by means of artificial premature labor or a Cæsarian section.

Professional Tobacco Poisoning in its Relation to the Reproductive Functions.—PIERACCINI (*Clinica Moderna*, rev.; *Am. Jour. o. Ob.*, June, 1905).—Out of eighty-four pregnant women who were treated for manifestations of tobacco poisoning forty-nine were delivered at term, sixteen had premature labor, fifteen abortions, four were threatened with abortion; thus, almost 37 per cent., showed a premature interruption of pregnancy. All these women were well nourished and in comparatively good physical condition, so that the interference with the pregnancy could only be referred to the effect of the tobacco. In some cases the nicotine directly injured the fetus, causing its death and secondarily abortion. In other cases the nicotine seems to have affected the uterine muscles, producing premature contractions. The author concludes from his observations that the tobacco poisoning disturbs the course of pregnancy, but does not decrease the liability of impregnation.

PEDIATRICS.

IN CHARGE OF

ALFRED FRIEDLANDER, M. D.

The Conformation of the Colon in the Nursling.—SAIAS (*Rev. Mens. des Mal. de l'Enf.*, May, 1905), in studying the question of constipation in nurslings made a number of autopsies in infants dying of diverse conditions to investigate the condition of the large bowel. The colon was not situated exactly alike in any two of the nineteen cases studied. The descending colon was found to be very long in all cases, and the number of flexions found in many cases offered an explanation of the constipation likely to be found in such cases. The author was not able to agree with the statement of Jacobi, that though the descending colon is very long in early infancy, the transverse and ascending portions of the large bowel are very short. He has found these parts of the bowel to be very long also.

The author sees a natural explanation of the constipation so commonly found in nurslings in this comparatively increased length of the colon with its numerous flexions. This mechanical cause is to be found in the colon as an entirety, not in the relatively increased length of its descending portion, and this mechanical cause is not found in the adult.

Treatment of Epidemic Cerebro-Spinal Meningitis.—HUBER (*Arch. of Ped.*, May, 1905), says that as yet our treatment is necessarily empirical and symptomatic. Against the fulminant cases, which form a large percentage of the whole number, we are absolutely powerless. The onset of the disease does not permit a forecast as to the ultimate course. The attack may be ushered in with very severe symptoms, which, in a

few fortunate instances, subside, and the subsequent course is mild with rapid convalescence.

The strength of the patient must be maintained by proper nourishment and skilled nursing. The room should be well ventilated, but darkened. The functions of the body are to be regulated. Plenty of water to drink and fluid diet are advised. The naso-pharynx should be irrigated with 6-10 per cent. salt solution freely. At times forced feeding through nose or mouth may be required.

Cold applications to the head are used as routine measures. The temperature can be reduced, when over 103, by means of colon irrigations at 80 or by mustard packs.

For the restlessness and suffering codein or morphia were given by the author in preference to the bromides, which did not give good results in his cases. Iodids were given as routine treatment. Applications of Crede's or mercurial ointment to the spine were not found to be of benefit. Intraspinal injections of lysol were tried in a few cases without apparent results. As a palliative measure lumbar puncture is often of value to relieve intracranial pressure. This procedure was done repeatedly in the same case.

Treatment with diphtheria antitoxin did not have any good results.

The author calls attention to the treatment advocated by Aufrecht and used with good results by Rogansky. Hot baths (104°) are given once or twice daily, an icebag being applied to the head.

The author concludes his paper as follows: "A careful consideration of the cause and a study of the pathologic lesions lead to the belief that, in future, preventive measures rather than remedial agents will overcome the dangers of the greatly dreaded epidemic cerebro-spinal meningitis."

Gonococcus Infections in Children.—HOLT (*Arch. of Ped.*, May, 1905), calls attention to the great frequency of gonococcus vaginitis in children's hospitals. Thus in 1904 fifty-two cases of specific vaginitis were found in the babies' hospital, but only sixteen of these could have been diagnosticated without bacteriologic examination. In well-marked cases the symptoms were fairly easy of recognition, discharge moderately abundant, yellow or greenish yellow, sometimes tinged with blood. Extension to the uterus, tubes and peritoneum was not observed; neither was cystitis met with. Urethritis was not common and seldom severe. In the milder cases the discharge might be so slight as to escape detection except by close inspection. Constitutional symptoms are few and insignificant and the temperature seldom rises over 101°. Arthritis is one of the most interesting phases of gonococcic infection in children. Holt reports twenty-six cases. Nineteen cases were in boys, seven in girls. A single joint was involved in only five cases, three or more joints were involved in sixteen cases. The superficial symptoms are a rapidly developing articular swelling with early redness, acute tenderness, and, in cases going on to suppuration, fluctuation at the end of a week. Not much edema in the neighborhood of the joints, but the usual characteristics of acute pyemic arthritis. Fourteen of the twenty-six children died, though the author thinks that in many of the cases the cause of death was marasmus and not pyemia. In children whose general con-

dition was good, early incision and washing out usually sufficed for rapid cure.

The author's general conclusions as to gonococcic vaginitis in young children are as follows: The milder forms are exceedingly annoying in institutions because of their intractability; the severe form being very dangerous on account of the liability of the children to gonococcic pyemia. Children with gonococcic vaginitis should not occupy the same wards or dormitories as other children. As a prophylactic measure all girls admitted to hospital should have the vaginal secretion microscopically examined. When the gonococcus is found with no discharge, or with a very slight discharge, children should also be quarantined, though it is impossible at present to say to what extent such cases may be dangerous in the ward.

Quarantine to be effective must extend to nurses and attendants as well as to children. Napkins, clothing, bedding, etc., of infected children must be washed separately from the rest of the house.

(Following the reading of this paper, a very full and interesting discussion took place, for the details of which the report in the JOURNAL as quoted may be consulted.—ED.)

Asthma in Childhood.—BARBARIN (*These de Paris*, 1904; *Arch. de Med. des Enf.*, April, 1905), says that true, essential asthma is found in children of all ages. Its onset is apt to be in the form of a severe bronchial catarrh, coming on in paroxysms, and suggesting a capillary bronchitis or bronchopneumonia. After twenty-four, forty-eight or seventy-two hours the attack subsides and the child appears perfectly well. Asthma is a manifestation, on the part of the respiratory tract of the neuro-arthritic diathesis. It is hereditary, coming directly from mother or father, though at times a generation may be skipped. The earlier it appears the better the chance of its amelioration or complete disappearance in time. When it appears in late childhood the prognosis is graver with regard to duration and complications (emphysema, cardiac dilatation and chronic bronchitis).

In addition to this essential asthma, there are various forms of symptomatic asthma, resulting from diverse affections of the nose, mouth, bronchial tubes, glands, digestive system, etc.

ORTHOPEDICS.

IN CHARGE OF

NATHANIEL ALLISON, M. D.

Contribution to the Surgery of the Spinal Cord.—F. SELBERG (*The Beitr. z. Klin. Chir.*, Vol. XLIII, No. 1).—One of the four cases described was an extradural lipoma causing compression of the spinal cord, one was a tuberculous meningitis, another spondylitis, and another a sarcoma in the pia. The focus was freely exposed and excised and the patients with the lipoma and the tuberculous spondylitis were permanently cured. Every

progressive tumor in the spine should be operated upon, as the outcome is otherwise fatal, but the prospects of success are not always certain. Only a few tumors of the spine are capable of being radically removed. When the cord is involved the growth is inoperable. But when a lipoma, fibroma, psammoma echinococcus, or exostosis has developed and compresses but does not encroach upon the cord, success may be counted on. Mere diagnosis of the segment affords no information on this point. The first symptoms of a surgical spinal affection may be restricted to simple bladder disturbances. The pains are often taken to be sciatica or intercostal neuralgia.

The Gardener's Spade Deformity and the Silver Fork Deformity in Fractures of the Carpal End of the Radius.—JOHN D. ROBERTS, M. D., Philadelphia (*Medical Record*, May 27, 1905).—Much has been written in recent years about the pathology and treatment of fractures of the carpal end of the Radius. These lesions continue, nevertheless, to be badly treated by a great number of practitioners. It seems impossible to convince the profession that restitution of the normal concavity of the palmar surface of the lower portion of the radius is essential for comfortable convalescence and perfect cure. These injuries are fractures of all others, in which "setting" of the bone must be promptly and efficiently done. Force is required to disentangle the fragments, and the surgeon who fails to employ it does not reduce the fracture. The author describes the gardener's spade deformity as being very different from the silver fork deformity, and says that the planes of the forearm and hand are related to each other almost exactly as are the planes of the handle and blade of the gardener's spade. The difference between this gardener's spade deformity and the silver fork deformity lies chiefly in the fact that in the silver fork deformity we have fracture with forward displacement, whereas in the gardener's spade deformity the displacement is backward. For treatment reduction by force is advised. Either a straight splint on the dorsum of the forearm and hand or a molded splint on the palmar surface will thoroughly accomplish retention. As a rule the simpler the dressing is the better.

The Employment of the Blind for Massage.—NATHANIEL BOWDITCH POTTER (*Boston Med. and Surg. Journal*, April 27, 1905).—The object of this article is to stimulate interest in supplying the blind with another means of livelihood. In Japan for a great many centuries the custom has existed of employing blind masseurs. There the blind have enjoyed especial protection and indulgence from the Emperor. They have been exempt from taxation; they have formed a sort of guild. Practically all the massage employed in Japan is given by the blind. The blind are able to learn massage very readily when quite young. Although this universal custom of employing the blind for massage in Japan has long existed, comparatively few attempts have been made in other countries. Mrs. Z. I. Vengueroff began teaching massage to the blind in St. Petersburg in 1883. She selected a young girl who was born blind, who learned so quickly and became so adept that Mrs. Vengueroff was encouraged to continue her work with the blind. At the present time there are eleven pupils at her school, and she is apparently obtaining

very satisfactory results. In Sweden—the home, so to speak, of massage—less encouraging results are reported. Professor Nycander attempted to teach the blind or partly blind for about six years, but without much success. In Germany there have been several isolated attempts, none of which have produced striking results except the work done in Leipzig by Eggbrecht. He selected twenty-four persons, six women and eighteen men. Thirteen of these completed their course, four women and nine men. He transposed text-books such as are ordinarily used by nurses and masseurs into raised type. The skeletal parts were explained while the pupils felt the bones directly, and afterwards a living model. At the end of four months they became quite expert, and gave complete satisfaction to both physician and patient. The effect of massage upon the blind persons was excellent. They stood the exertion very well, gained in weight and strength, and developed a great interest in their work. In America we find that, in Boston, there are two blind women that have been successful in their efforts at massage. The author states that he was unable to find a suitable pupil at the blind asylum on Blackwell's Island, New York, but he soon after discovered a man thirty-five years of age, completely blind, who picked up enough in two months' instruction to be of great assistance in the charity wards of the city hospital. It is the author's hope that some time in the near future a scheme will be planned for providing suitable blind people with instruction in massage and for furnishing a practical organization so that they may obtain continuous employment, after they have learned, in the hospitals, dispensaries, sanatoria and homes of New York City.

The Treatment of Gonorrheal Arthritis by Hyperemia.—JOHANNAS H. M. A. VON TILLING, M. D., Poughkeepsie, New York (*Journal of the Amer. Med. Association*, April 29, 1905).—As is generally known, Bier recommended hyperemia by damming at first for tuberculous joint diseases; later he employed it for other diseases, and in his book (*"Hyperemias als Heilmittel"*) he writes:

"Yet much more marked is the effect of hyperemia by damming on the whole form of gonorrheal joint inflammation, which is so extremely painful. In these cases the pain becomes easier in from one-half to one hour after the application of the rubber bandage." During the last few months the author has had occasion to employ this form of treatment in three cases of gonorrheal arthritis which were marked by extreme pain and tendency to stiffness. He says that his results far surpass the results obtained by any other treatment, and most urgently recommends hyperemia by damming according to Bier. His technique was as follows: A pliant, thin rubber bandage, the same as is used to make limbs bloodless for an operation; this is applied in several layers, moderately tight around the limb. It will soon be noticed that the subcutaneous veins swell, the skin becomes of a red hue, slightly tinged with blue, and the limb becomes bigger and edematous. It feels warm to the touch. If there is pain in the joint, it ceases very soon, and the stiffness of the joint becomes gradually less. To prevent any unpleasant results, such as atrophy of the muscles or irritation of the skin at the place where the bandage is applied, a few layers of gauze can be interposed between the skin and the rubber. It is also expedient to change the place of the

bandage; for instance, he put it at night directly above the diseased joint, and during the day further away from the joint.

Location of Scoliotic Deviations at Various Ages.—ERNST MUELLER, Altdorf (*Zeit. f. Orth. Chir.*, Bd. 13, Hft. 4).—Schulthess compiles statistics based on 1,140 cases. These are tabulated each year from eight to eighteen. From this table we may glean the following facts: (1) The general frequency of the observed cases rises steadily from the eighth to the fourteenth year, and then diminishes. (2) Comparing the eighth to the seventeenth year, the frequency then of the maximum of the right convex deviation always shows itself at the sixth or the eighth dorsal vertebra. (3) The frequency maximum of the left convex deviation is at the eighth year at the eighth or the tenth dorsal vertebra; falls at the fifteenth year to the first or second lumbar vertebra, and remains there in the following years. (4) The frequency of the left convex diminishes, with few exceptions, from the eighth to the seventeenth year, but that of the right convex increases; at the fourteenth year they are equally divided. The number of compensatory curves increases steadily from the eighth to the seventeenth year. The increase depends chiefly upon the left convex compensatory curve.

NEUROLOGY.

IN CHARGE OF

SIDNEY I. SCHWAB, M. D.

Physical Infection (Induced Insanity).—MEYER (*Berl. Klin. Woch.*, No. 22).—By this term is meant that the established psychosis of one individual is the specific cause of the insanity of a second. The clinical picture of the second must, therefore, conform to that of the first. A number of cases are described by the author to support the conclusions, which are as follows: Paranoia and paranoidal psychoses are the forms of insanity which lead to induced psychosis. In the absence of any disposition to insanity it is difficult to understand how there can result a case of psychical contagion unless such a predisposition is assumed.

Dementia Præcox.—SACHS (*Journal Mental Nerv. Diseases*, June, 1905).—This paper was read before the American Neurological society to open the discussion upon dementia præcox. It is a statement of the conservative position held by many American neurologists. Sachs' conclusions are in part as follows: There are undoubtedly many cases which correspond accurately to the types described by Kraepelin and his followers. This is particularly true of the earlier forms of mental derangement occurring in members of a family in which there is a very marked psychic taint, but even in such individuals years may pass before appreciable dementia sets in. The term should be carefully restricted to such cases in which mental deterioration at an early stage of the disease is clearly recognizable, and should be carefully considered and possibly avoided

in those cases in which a dementia may possibly be developed in the far distant future.

Hyperplasia of the Chromophile Cells of the Hypophysis as the Cause of Acromegaly, with the Report of a Case.—LEWIS (*Bulletin of the Johns Hopkins Hospital*, May, 1905).—Of the forty-nine cases of autopsy findings in this disease collected by Furnivall in 1898 all but two showed abnormally large hypophyses. The following theories have been advanced to explain the symptoms found: 1. Nervous, the theory dependent upon changes in the central nervous system. 2. Theory of growth anomaly; atavistic theory. 3. Thymus theory. 4. Genital theory. 5. Thyroid theory. The most readily accepted theory is the one that is concerned with the changes found in the hypophysis which produce, in some way not clearly understood, an excessive function of the cellular elements of the anterior lobe of the hypophysis. The findings in this case seem to support this view. The hypophysis appeared normal upon gross examination, but microscopic examination revealed a hyperplasia, especially of the chromophile cells, which is confirmatory of the theory that acromegaly is caused by excessive function of the glandular elements of the anterior lobe of the hypophysis.

The Pathogenesis of the Tay-Sachs Amaurotic Family Idiocy.—SCHAFER (*Neurolog. Centralblatt*, No. 9, 10, 1905).—Sachs' amaurotic family idiocy, as the disease is known in this country, has always excited interest for the reason that it is apparently a well-defined clinical type, and because, as far as investigation has gone, there has been a uniformity of pathological findings in the post-mortem examination. The brief outlines of the clinical picture are as follows: 1. Beginning of symptoms in the first to second year of life, with a steadily progressive weakness mentally and physically. 2. The child is unable to fix accurately his vision; peculiar changes in the eye ground, which is pathogenic for this disease. 3. The child shows a steadily progressing dementia to imbecility. 4. Family type. 5. The frequent appearance of hyperakusis. This paper is based upon a material of seven cases, which in the literature of this disease must be considered a large clinical experience. Six of these were examined microscopically with various methods. It is worthy of note that the fibrilla stain was used in this study. The most definite fact derived from the pathological study was that the nerve cells of the whole nervous system were affected. The cell body was found to be the primary origin of the diseased process. The blood vessels showed normal conditions everywhere. In conclusion, the author believes that this disease might be included in the class of cases to which Edinger has given the name of "aufbrauch"—that is, fundamental incapacity to sustain for any length of time the normal functions. The Sachs amaurotic family disease is not a mixed form of this class of degenerative diseases, but is a classic example of a pure type.

GENITO-URINARY SURGERY.

IN CHARGE OF

H. McC. JOHNSON, M. D.

The Relation of Gonorrheal Rheumatism to Seminal Vesiculitis, and Its Cure by Seminal Vesiculotomy.—FULLER (*Ann. Surg.*, June, 1905).—The author is inclined to the view that gonorrheal rheumatism has for its cause the gonococcus only in a secondary manner; that the gonococcus, through the localized inflammatory reaction which arises from its presence in connection with the mucous membrane, allows other germs to enter the system, the result being the usual group of septic symptoms classed under the clinical heading, gonorrheal rheumatism. He even holds that gonorrheal rheumatism, so-called, can exist entirely independently of the gonococcus; that another agency can exist which can play the minor role assigned to the gonococcus of allowing other germs to enter the system from a genito-urinary source. He has observed on a considerable number of occasions all the clinical symptoms of gonorrheal rheumatism develop subsequent to surgical instrumentation or treatment which has awakened an acute inflammatory reaction in connection with old, quiescent lesions of the seminal vesicles. The idea occurred to him in December, 1904, to try to cure gonorrheal rheumatism by the operative method he is reporting. Since that time he has been of the opinion that the systemic infection in the male usually enters from a special focus, and that that special focus is represented by a seminal vesiculitis. Out of fifteen cases of gonorrheal rheumatism in the male investigated, in twelve the only existing genito-urinary lesion was in the seminal vesicles. Four of these were subjected to seminal vesiculotomy, all systemic absorption from the seminal vesiculitis being immediately checked and resolution of the genital lesion promptly following. Almost immediately in all these cases the active symptoms of gonorrheal rheumatism have wholly disappeared. At the end of two weeks, when the patients have been allowed out of bed—that being the usual period of rest demanded by the operation—they have all been able to walk about, and leave the hospital promptly, entirely free from their gonorrheal rheumatism.

The author has performed the operation of seminal vesiculotomy forty-six times without a death. He mentions a few cautions to be observed in doing the operation and tabulates his articles upon the subject.

Treatment of Acute Blennorrhagic Arthritis of the Knee by Intra-articular Injections of Sublimate.—GALLIARD (*Ann. des Mal. des Org. Urin.*, May 15, 1905).—Heretofore the treatment advocated for this condition has been immobilization, or arthrotomy followed by curettage and the application of iodine or zinc chloride. It is to avoid the arthrotomy that the author employs in acute suppurating arthritis of blennorrhagic origin, puncture followed by intra-articular injection of sublimate, or, better still, sublimate lavage. This procedure seems to the author in-

finitely superior to simple immobilization, and to puncture without consecutive injection. It is especially applicable to the knee. It relieves the pain even in those cases where great distention of the joint is rapidly produced after the lavage; it reduces the fever; it does away with prolonged immobilization and consequently irremediable adhesions. A sterilized solution of sublimate, 1 to 4,000, is employed. When the knee is painful and distended, it is punctured either with a capillary needle adapted to the syringe of Roux, which serves for aspiration, or with a needle less fine, which permits expression of the liquid without aspiration. Then, without awaiting complete evacuation of the purulent or sero-purulent fluid, 20 c.c. of the sublimate solution is injected and the mixture thus formed is extracted as completely as possible. This lavage is repeated several times at the same sitting, the liquid returning less and less thick; often it remains milky up to the end; it does not appear lymphoid even after five or six injections. The needle is now withdrawn and the wound covered with collodion. The knee is then enveloped in padding without compression. The limb is placed in a splint of padded iron wire, or upon pillows. In severe cases several sittings are necessary, never more than three. When the fluid appears absorbed, massage and movements of flexion and extension are begun, gently at first. No case of ankylosis has occurred in the author's results. The duration of treatment has varied from four weeks to four months. This treatment is recommended for acute blennorrhagic arthritis only, and not for cases of arthritis with streptococcus or staphylococcus infection. Local treatment of the gonorrhea must be also instituted. Ten cases in illustration are cited.

Intertesticular Anastomosis after Division of the Deferent Canal.—(GATTI (*Ann. des Mal. des Org. Urin.*, May 15, 1905).—From experimental operations, the author says that intertesticular anastomosis, that is to say, the grafting of a testicle with a divided deferent canal upon the other testicle with an intact deferent canal, with the aim of preserving the former testicle anatomically and functionally, and of creating new avenues for the escape of its sperm, is an operative act which determines a traumatism which may produce degenerative phenomena in both testicles, which are in proportion to the intensity of the operative traumatism. However, when this is very slight the degeneration is entirely wanting. In anastomosed testicles, immediate or remote division of the deferent canal, delicately isolated from the surrounding tissues, does not determine phenomena of degeneration.

The process of epithelial regeneration not only goes on in the body of the testicles, but even creates a tubular anastomosis between the glandular substances of the two testicles. This regeneration also includes the vascular and nervous tissues across the line of anastomosis, putting into direct communication the vascular and nervous tissues of the two testicles, thus making a satisfactory anastomosis. This anastomosis properly applied preserves not only the vitality of the glandular tissue of the testicle, but even its function as well, the spermatozoa being abundant and endowed with normal movements. The procedure is thus rational and experimentally proved.

The operation is indicated in cases of operative or traumatic injuries to the deferent canal of a healthy testicle.

Cystoscopy and Renal Lavage.—JOHNSON (*Med. Record*, May 20, 1905).—We find here considered the indications demanding cystoscopy and renal lavage; rules to be observed in preparing for cystoscopy; description for the *modus operandi*; difficulties likely to be encountered in the procedure, and cases illustrating the beneficial effects of his method of treatment.

Four cases are reported: One of lithemia with chronic catarrhal pyelonephritis, virtually cured; one subacute parenchymatous nephritis with catarrhal pyelitis and lithemia, much improved; one of chronic parenchymatous nephritis and chronic catarrhal cystitis, markedly improved, and one of chronic catarrhal pyelo-nephritis with stricture of the ureter, improved.

LARYNGOLOGY AND OTOTOLOGY.

IN CHARGE OF

WILLIAM E. SAUER, M. D.

Thymic Tracheostenosis.—CARTER (Man. Eye, Ear and Throat Hosp. Rep., March, 1905), reports a fatal case. He uses the term advisedly, not referring to the condition caused by presence of an hypertrophied thymus gland upon the trachea (from an enlargement of the gland downward) with death caused by interference with the circulation. The symptoms are those of an obstruction to the passage of air in and out of the lungs and usually result in asphyxiation, while in the latter death results very suddenly from syncope. Carter notes the seeming reciprocal relation between the thymus and the spleen; if the thymus is large, the spleen is rudimentary; if small, spleen is large. In order to appreciate the encroachment on the lumen of the tube a transverse section (post-mortem) through the organs *in situ* should be made, otherwise one is misled.

Report.—M. B., female, five weeks. Patient small, six pounds, illy nourished. Extreme dyspnea. Head thrown backwards and sideways in efforts to breathe, cyanosis marked. Inspiratory and expiratory stridor. Child's condition dated from time of birth, getting steadily worse. Deep retraction intercostal spaces, episternal and supraclavicular notches, and recession of the epigastrium at each inspiration.

Tracheotomy afforded temporary relief. Death thirty-six hours after operation. Post-mortem an enormously hypertrophied thymus was found, pressing the trachea back against the vertebral column.

Parosmia.—MUNGER (Man. Eye, Ear and Throat Hosp. Rep., March, 1905), reports a peculiar case of this rather infrequent perversion. The etiology—hallucinations of the insane, cases due to brain tumor, injury, etc.—in Munger's case was apparently an arterio-sclerosis, which must have involved the olfactory lobe, affecting its nutrition primarily and its function secondarily.

The man, age fifty, had been a generous liver, now suffered from severe headaches and had for some time been overpowered with a per-

sistent odor of what he described as "heliotrope." The odor was delicious and ever present. All liquors, particularly aromatic ones, gave off this odor. Everything was "heliotrope" of odor, his axillary secretions, the emanations of passing women, violet water, etc. This lasted six months. His taste was unaltered.

Alarming Hemorrhage Following Tonsillotomy—Its Cause and Cure.—HARMON SMITH (Man. Eye, Ear and Throat Hosp. Rep., March, 1905).—Fatal hemorrhages appear to be few. Broca lost two cases. One, a male, twenty-five, another, a male, eight and one-half, who had an anomalous carotid. A number of American physicians have lost cases. Smith argues that if death can occur from tonsillotomy, it behooves those who are daily performing this operation to fortify themselves as much as possible against such a contingency. The special causes enumerated are:

- (1) Hemorrhagic diathesis or hemophilia.
- (2) Fibroid tonsils, where glandular substance is largely enmeshed with fibrous tissue, which prevents the arterioles from contracting when cut.
- (3) Age—occurring more in adults than in children.
- (4) Sex—more frequent in males than in females.
- (5) Acute inflammation, when tonsils are engorged with blood. Consensus of opinion discourages removal when this condition exists.
- (6) Anemia.
- (7) Malignancy.
- (8) Abnormalities (1) of distribution of ascending pharyngeal artery; (2) abnormally large tonsillar artery; (3) abnormal internal carotid; (4) large vessel in anterior pillar of fauces; (5) wound of large venous plexus, at lower and outer border of tonsil; (6) arteriosclerosis.

Exciting causes (1) traumatism; (2) local anesthesia combined with an astringent, as cocain and adrenalin, which predisposes to a secondary hemorrhage.

What do, especially if removed from office or clinical operating room?

Delavan and others recommend upright position. This induces syncope and the hemorrhage will stop. Yet in six cases this has been known to fail. The cautery is not usually at hand and has, moreover, limitations.

The purse string suture sounds easy, but is impracticable in a small throat.

Ligation of the carotid is a serious proceeding and not absolutely reliable.

Veratrum, iron and many other drugs are used in different ways, but all fail where the blood is flowing freely enough to be dangerous. In Smith's hands the most effective instrument has been the tonsillar hemostat of Mickulicz-Stoerck.

This instrument has been applied by Smith in three cases which are related. A table of cases of alarming hemorrhages reported since 1868 is also given. There have been fifty-four cases and six deaths reported.

Local Anesthesia of the External Ear Passages.—LAVAL (*Archiv. fuer Ohrenheilkunde*, April 27, 1905).—On account of the peculiar anatomy

of this part, the application of the Seileisch method or ethyl-chloride, or the use of cocaine solution, is difficult. Dr. Laval uses a one per cent. solution of cocaine muriate in normal salt solution, and anesthetizes the sensory nerves (a branch of auriculo-temporal, a branch of the vagus, and a branch of the auricularis magnus) before their distribution.

In locating these nerves there is danger of injuring the temporal artery, auriculo-temporal nerve, capsule of temporo maxillary joint and parotid gland. If mouth be opened wide, the first two organs named sink, the capsule of joint is stretched, and the parotid gland is pushed forward.

Now insert needle one and one-half c.m. deep, one half c.m. in front of tragus, and on level of floor of auditory canal—this for branch of auriculo-temporal nerve. Then, for the other two, pull the ear (external) gently forward, insert needle one c.m. deep on the level of the canal between bone and cartilage.

One-half cc.m. of the one per cent. solution is enough. The anesthesia begins in five minutes, and lasts about twenty minutes. This anesthesia can be used in operating for furunculosis, polyps, small tumors, paracentesis and abscesses, and may be used as an aid in diagnosis.

A Case of Otitis Media Purulenta, Secondary to an Empyema of the Antrum of Highmore.—KONIEZKO and HEMER (*Archiv. fuer Ohrenheilkunde*, April 27, 1905) relate a case in which an involvement of the ear was not suspected until post-mortem discoloration of the meninges in the temporal region was observed. The woman had died of general sepsis. It was learned that the patient, an elderly woman, decrepit and in a miserable physical condition, spoke in "nasal tone" and had a perforation of the hard palate, partly healed. Nothing in the nasal cavity was suggestive save the redness of the mucous membrane; no pus evident. She suffered from polyarthritis deformans. The temperature for three days before exitus was 39°, but sank to between 37.4° and 37.7°. The post-mortem pointed to an involvement of the middle ear, and a dissection of the temporal bone was made. Pus was found, after incising the dura, between the temporal and the basilar portion of the occipital bone. The left half of the sphenoid and a part of the basilar portion of the occipital bone were chiseled out, and the left pterygo-palatine fossa and the pharynx freely opened. Under these bones discolored necrosed tissue was found, which was easily removed with small forceps. The now visible upper posterior wall of the superior maxilla showed a carious perforation as large as a penny. This was enlarged, and the antrum of Highmore easily seen—in part greenish-black, in part green-gold in appearance, and full of mucus and pus. There was no perforation of the drum, and hence no otorrhea.

DERMATOLOGY AND SYPHILIS.

IN CHARGE OF

MARTIN F. ENGMAN, M. D.

Acrodermatitis Chronica Atrophicans.—CARL HERNHEIMER (*Journal Cutaneous Dis.*, June, 1905).—As to the question which has been raised whether acrodermatitis chronica atrophicans is an independent affection or should be considered identical with scleroderma, the author believes that they are two separate affections and such a confounding is only possible in the atrophic stage as might also be possible with senile atrophy. In the inflammatory stage the differential diagnosis offers no difficulty. Scleroderma also begins often with hypertrophy, yet this is very different from that of acrodermatitis, scleroderma not usually showing glandular inflammation. Sclerodermic skin is hard and board-like and is always bound down to the lower tissues, whereas in acrodermatitis the skin feels soft and is never bound down. Scleroderma can affect any part of the integument, whereas acrodermatitis usually affects the extensor sides of the ends of the extremities and usually extends over the ends of the extremities.

Histological Researches and Some Reducing Agents Employed in Dermatology.—VIGNOLO-LUTATI (*Monatsch. f. Prakt. Derm.*, t. 38, p. 257).—These researches were carried on by the application of various reducing agents applied to the comb of the cock. It was found that the action of tar was solely superficial and affected the cells of the epidermis with which it came in contact, secondarily affecting the derma, and seemed to have a resolutive action upon chronic inflammation. The oil of cade produced likewise a moderate infiltration of cells in the connective tissue. Ichthylol provoked a moderate reaction of the derma.

Statistics on Radiotherapy.—MM. BISSERIE and MEZERETTE (*Annals Derm. and Syphilis*, April, 1905).—Since 1900, when the writers commenced the application of the x-rays in the treatment of certain cutaneous affections they have given their results in several communications, their figures being very encouraging, placing, in their opinion, radiotherapy upon a firm basis in the treatment of many grades of infections (mycosis, sarcoma cutis, etc.). The results given in this article are as follows:

Phagus.—Two cures out of eight cases treated.

Sycosis.—Twenty-three cases treated; twelve cures; eleven under treatment. The results in this affection are rapid, many of these cases being rebellious and chronic, and six to eighteen treatments were given.

Folliculitis.—Twelve cases treated; eight cures; four under treatment. The results rapid and very definite.

Acne.—Ten cases treated; four cures; six relapses. In this affection the immediate results are very marked and rapid, but in the majority of cases the cure was only temporary.

Nevus Planus.—Four cases treated; two improved; two under treatment.

Keloid.—Twenty-five cases treated; fourteen cures; eleven under treatment. The results are generally good. The applications must be made rather intensified.

Neuro-Dermatitis.—Twenty-seven cases treated; twenty-four cures and three under treatment. The changes for the better under this form of treatment in dermato-neuroses are very rapid, the first application often markedly improving them. Three to five applications have proved entirely beneficial.

Lichen Simplex, Lichen Ruba, Lichen Planus, Lichen Corne.—Twenty-four cases treated; seventeen cures and seven under treatment. The results are very rapid. After one or two treatments the itching disappears and five to six applications often completes the cure.

Verruca Planus.—Twenty-five cases treated; seventeen cures; four unsuccessful; four under treatment. In general, disappearance was produced after two or three applications.

Psoriasis.—Twenty-four cases treated; twenty-two cures; two under treatment; twelve relapsed. The immediate results are beautiful and rapid. The plaques are rapidly whitened, but the results obtained are not durable.

Lupus Vulgaris.—Forty-six cases treated; twenty-nine cured; four improved; seven unsuccessful and six under treatment.

Fixed Lupus Erythematosus.—Thirty-three cases treated; twenty cured; eight improved: two unsuccessful; three under treatment.

Epithelioma Cutis.—One hundred and eighty-six cases treated; one hundred and forty-two cures; forty-one improving; three unsuccessful (relapsed).

Sarcoma Cutis Diffuse.—Eight cases treated; six cured; two improving.

Cutaneous Melanosarcoma.—Twelve cases treated; ten cured and two improving.

Mycosis Fungoides.—Nine cases treated; six cured and three improving.

Paget's Disease.—Nine cases treated; six cured; three under treatment.

Epithelioma of the Upper Lip.—Eleven cases treated; eight cured; three unsuccessful.

Epithelioma of the Lower Lip.—Thirteen cases treated; six cured; five unsuccessful; two under treatment.

Epithelioma of the Tongue.—Seventeen cases treated; three cured; two improving; one relapsed after six months; eleven unsuccessful.

OPHTHALMOLOGY.

IN CHARGE OF

JOHN GREEN, JR., M. D.

Aristol Oil.—DAXENBERGER (*Woch. f. Ther. u. Hyg. des Auges*, vii, 10).—A 10 per cent. solution in oil of sesamum has been found by Daxenberger to be a non-irritating and mild ocular antiseptic. It has been found particularly useful in (1) inflammatory lid affections, e. g. as an application to the lid margins after the removal of the crusts of marginal blepharitis. (2) In lime burns of the cornea and conjunctiva. (3) In phlyctenular keratitis and strumous ophthalmia generally. (4) In traumatic abrasion of the superficial layers of the cornea.

A New Series of Semaphore Charts for Testing the Vision of Railroad Employes.—N. M. BLACK (*Am. Jour. Ophthalm.*, Feb. 1905).—These well executed charts of Black are of two kinds. The one depicts a standard semaphore pole surmounted by single and double blades in various positions and combinations. The ends of the blades are variously shaped—square, forked, pointed and rounded—to meet particular indications. The arm of the charted semaphore subtends an angle of five minutes at twenty feet. The other depicts a disk signal printed with the colors actually in use with this signal. The color of the disk exposed gives the indication. The figures are printed on a neutral grayish card which corresponds to the average tint of the horizon.

Dr. Black affirms that railway employes should not be required to name the colors as such, but should simply state whether the indication is "danger, caution or clear."

Latent Hypermetropia, the cause of the Difficulties Attending Refraction Work.—L. S. DIXON (*Ann. of Ophthalm.*, April, 1905).—Dixon avers that to uncorrected latent hypermetropia should be ascribed the majority of the oculist's failures to achieve wholly satisfactory results in refractive work. He has found that the ciliary muscle will frequently resist all efforts completely to paralyze it even with the aid of strong solutions of atropia.

Normal eyes can work hard without strain because when looking at a distance the ciliary muscle can completely relax. Abnormal eyes are constantly at work; they are without rest even when looking off at a distance, are, indeed, without rest while the eyes are open. If the ciliary muscle were actually at rest examinations by different observers at different times should give identical results. But this is rarely the case. "In the larger proportion of eyes, owing to their congenital peculiarities of shape there is formed by education and of necessity a habit involving the constant action while the eyes are open of the ciliary muscle. This habit being independent of the will must tend to conceal a portion of the error causing it from the usual methods of examination. And this uncorrected and undiscovered portion vitiates the results of our efforts to give the relief that results from rest."

"In practical tests fifty refusals to see through a glass prove nothing, one moment's acceptance does."

Dixon assures us that only after years of persistent effort will some ciliary muscles yield to the inevitable and disclose all the hypermetropia of the eye.

Keratitis Disciformis, With the Report of a Case.—W. C. POSEY (*Ophthalm. Review*, May, 1905)—Greyish white irregularly oval opacities sharply marked off from the surrounding clear corneal tissue occupied the center of each cornea in an elderly male. Under magnification the overlying epithelium was found roughened but unbroken, and the opacities were seen to be made up of small greyish dots.

Fuchs was the first to distinguish carefully between the so-called keratitis annularis of Vossius and keratitis disciformis. The latter disease is characterized by sharply delimited disc-like corneal opacities, the overlying epithelium being dull and insensitive, and at times roughened by small vesicular thickenings. Exceptionally the epithelium breaks down into small ulcers. The disease is chronic, lasting from six weeks to three or four months, and terminates in dense corneal opacities. Iritis, descemetitis and hypopyon are occasional complications. The disease is one of middle life, and has been observed sequential to a loss of corneal epithelium through trauma or herpes. Fuchs regards the affection as exogenic in origin and classifies it with the flat ulcer of herpes and *ulcus serpens*. Von Hippel, on the contrary, believes that the affection arises from the endothelial cells lining the anterior chamber. Peters insists on the connection between keratitis disciformis, corneal erosions and *ulcus serpens*, and believes all three to be dependent on a nervous lesion affecting the corneal epithelium. Therapy is unavailing.

The Danger of Using Adrenalin Too Freely in Glaucoma.—A. SENN (*Woch. f. Ther. u. Hyg. des Auges.*, Vol. xvii.)—In view of the fact that adrenalin has recently been warmly recommended by certain authors, especially by Grandelement as a valuable therapeutic adjuvant in glaucoma, it is interesting to view the obverse of the medal presented by the experience of Senn. This author relates a case of subacute glaucoma (plus tension, cupping of the disk, steamy cornea and medium dilatation of the pupil) which had improved notably under eserine instillations. On the withdrawal of the eserine drops the glaucomatous symptoms recurred. Five days later the patient consulted Senn, who instilled one drop of a 1-1000 adrenalin solution and one drop of a 1 per cent. eserine solution. Fifteen minutes later the patient was found to be suffering intense pain, the eye was "dead white," the cornea very dim, the pupil dilated *ad maximum*, and vision was reduced to hand movements. Energetic treatment with eserine and morphin hypodermically restored the eye to the condition obtaining before the use of adrenalin.

In a case of glaucoma absolutum two drops of adrenalin produced maximum dilatation of the pupil, stony hardness of the globe and unbearable pain necessitating enucleation.

BOOK REVIEWS.

MALFORMATIONS OF THE GENITAL ORGANS OF WOMEN. By CH. DEBIERRE, Professor of Anatomy in the Medical Faculty at Lille. Translated by J. HENRY C. SIMES, M. D., Philadelphia. With 85 illustrations. Philadelphia: P. Blakiston's Son & Co. 1905. Price, \$1.50.

This is a rather poor translation of a distinctly antiquated essay. We wish to take exception to the translator's introductory remark, that this work will fill a void in English medical literature. All that it contains can be found in practically every American textbook of obstetrics or gynecology, and certainly in a more up-to-date form. We do not know when the French original appeared, but, after a very careful perusal of this English translation, published in 1905, we made the very disappointing discovery that the literature of the last fourteen years has not been considered. There is a case quoted as "recently" reported which was published in 1882. On page 76 the writer mentions an instance in which varicose veins were mistaken for a femoral hernia. This case was published in 1842. We are, therefore, not surprised that the writer still believes that certain cases of epilepsy and insanity require castration, or (on page 54) that the extra-fetal portion of the allantois forms the fetal placenta. The author (or translator) does not see fit to make a difference between atrophy and hypoplasia.

We make the translator responsible for unintelligible statements as follows (page 18): divides the pelvis into two compartments which have been compared to the wings of a bat. Page 27: vagina has an angle of fifteen degrees. Page 28: cul-de-sac which exaggerates coition. Page 40: pelvis is strongly curved. Page 48: clitoris and labia minora are the fundamental organs of copulation. This latter sentence reminds us of the fact that the writer (or translator), with a most remarkable persistence, speaks of the right or left *labium majorum* or *minorum*. With the same carelessness (on page 15) he gives the length of the uterus three times (!) in cubic centimeters. On page 37 he even speaks of the *right* vena cava.

But this little volume offers still one more characteristic feature which needs mention. It quotes the histories of cases in a distinctly filthy form. There is hardly any excuse for giving the history of a case in the manner in which this is done on page 146; and if the author illustrates the congenital absence of the vagina with quotations from the memoirs of Casanova (page 110), he displays, to say the least, lack of judgment, because he could have quoted these same cases in another chapter dealing with atresia of the hymen.

We would advise the publishers to take this volume from the market. Its contents, the carelessness of its translation, and the many typographical errors place it distinctly below the standard of the average Blakiston book.

CONSERVATIVE GYNECOLOGY AND ELECTRO-THERAPEUTICS. A Practical Treatise on the Diseases of Women and Their Treatment by Electricity. By G. BETTON MASSEY, M. D. Fourth edition, revised, rewritten and greatly enlarged. Illustrated with twelve (12) original full-page chromo-lithographic plates; twelve (12) full-page half-tone plates of photographs taken from nature, and 157 half-tone and photo-engravings in the text. Pages xvi-468. Royal octavo. Extra cloth, beveled edges. Price, \$4.00 net. F. A. Davis Company, Publishers, Philadelphia.

The author of this volume is well known as an enthusiastic believer in the efficacy of electricity in the treatment of every and all gynecologic troubles. His enthusiasm undoubtedly carries him too far. That there are merits in electricity as a therapeutic agent is a proven fact, but an exaggerated proclamation of them (as *e. g.* in this book) is not likely to gain new friends of this form of therapeutics. There is much truth in what the writer says against indiscriminate use of douches and tampons, those much

favoured gynecologic applications, and it certainly must be admitted that an electric current crossing the pelvis offers at least as good a chance to exert a beneficial effect upon a tender ovary as a glycerine tampon in the vagina or ichthylol salve on the abdomen. Electricity is a most effective means of controlling hemorrhages from a myomatous uterus, but the method will never be used as generally as it deserves to be as long as its advocates at the same time will record innumerable cases of wonderful disappearance of large myomas under the electric treatment. Very exact observations of very reliable investigators have proved beyond doubt the fallacy of such claims. If electro-therapists proclaim electricity as the panacea of all ills of humanity, they do what the osteopaths did with massage.

Nevertheless, we recommend a careful perusal of this well written book to every gynecologist. It contains a considerable amount of good information. A non-operating gynecologist seems to be a better observer of small details which are of importance from the point of view of diagnosis. The author's description of uterine discharges, his classification of salpingitis, his views on the correlation between the disorders of the nervous system and genital organs and many other things in this volume are exceedingly good.

Part II of the volume, comprising 120 pages, contains a very clear and complete exposure of the general principles of medical electricity. The writer describes the various forms of currents, their production, the handling and characteristic effects of currents, and concludes with a chapter on Roentgen rays.

THE DISEASES OF SOCIETY. By G. FRANK LYDSTON, M. D. J. B. Lippincott Company, Philadelphia. 1904.

This book represents the effort of one who approaches the problems of vice and crime from the point of view of an interested observer and a sympathetic one, rather than from the point of view of one who collects and analyses in the light of what scientific knowledge we have the data at hand. For this reason alone the book takes on a peculiar color, due also in a measure to the fact that its author is a physician. Some of the titles of the chapters are, to say the least, somewhat startling. Chapter one is entitled "Social Pathology," five is "The Chemistry of Social Disease." The author's justification for the use of such terms is open to serious question, and if the reader approaches this book in a somewhat skeptical frame of mind, the author will find an explanation for it in his use of such ill considered terminology. It is questionable if the physician is the sort of man who can write best on the complicated question which this book treats of. Crime and vice have a broader basis than the purely physical one with which the physician usually comes in contact with. The economic factor plays its role also, and this factor cannot be treated in the rather free and easy manner used in this book. One of the chief objections to Lydston's book is the style. Such phrases as the "therapeutics of anarchy," "therapeutics of social disease," etc., make a too evident insistence on the fact that the author is a physician, and that his way of thinking is too often influenced by his office and hospital way of looking at things. One is much less interested in reading a book of this kind by what the author is than what he thinks. The force of what one has to say is merely weakened by dragging in by the throat, as it were, medical terms which have no special meaning apart from their legitimate use. The reader's patience is no little tried by constant repetition of this sort, and above everything a book should not produce a feeling of impatience on the part of the reader. The reviewer confesses to just this effect. On the other hand, there is much evidence in the work of a careful study of the subject and of an abundance of opportunity, in a popular sense, for observation. There are chapters which are striking in the freshness of view and in the common sense conclusion arrived at. Here and there are to be found opinions which should be given a wider publicity than is likely to be obtained in this book. The author's views in regard to expert testimony, and to the legal side of the criminal procedure, are absolutely sound. There are statements also which will not bear the closest examination, and the manner in which the author has settled some of the most mooted points in the psychology of hysteria and drug addiction, for example, is so much in the manner of the usual writer on this subject as to merit no more than a mere mention. On the whole, it might be said with justice that in many ways the book probably fails of its purpose, but in many others, probably unknown to its author and wholly unintended, it will prove effective. One regrets that so many good things should be hidden away in a mass of rather ill considered data presented in a way that is bound to carry less conviction than the author really deserves.

WHARTON & STILLE'S MEDICAL JURISPRUDENCE. Volume II. Fifth edition. Edited by ROBERT AMORY, A. M., M. D., and ROBERT L. EMERSON, A. B., M. D.

This most useful work has been brought up to date by the present editors, and is presented in a handsome volume of 858 pages. The classification of poisons has been changed to correspond with the progress of modern investigations; that is, they have been classified in accordance with their chemical and physical relations, rather than according to the character of the symptoms which they produce.

The part of the book which relates to the chemical investigations has, perhaps, been more thoroughly revised and rewritten than any other, and those processes for the detection of poisons which experience has shown to be most reliable have been given prominent positions. Important progress has also been made in this new edition in the description of physiological actions of poisons, and the latest literature on the subject has been freely consulted and used. Special attention has been given to some of the poisonous substances which are frequently now the cause of death, such as carbolic acid and wood alcohol, the latter part of the work having been contributed by Dr. F. M. Spalding. The metric system has been introduced as an alternative system throughout the work. Special reference has been made to the effect produced by small quantities of borax added to foods, based on the data contained in Bulletin 84, Part 1, of the Bureau of Chemistry of Washington, D. C.

A valuable addition to the book is also the law relating to the medical examiners of the States of Massachusetts and Connecticut. Physicians, pharmacists and chemists will find the fifth edition of this classical work especially useful, well arranged, and easy of consultation. In the space of a brief review particular attention cannot be called to the many valuable data which appear for the first time in a work of this kind. It may be said, however, that the addition of this new matter has not led the authors to neglect old and established data, although they have omitted from the pages of this new edition much of the nonessential matter of previous editions.

H. W. WILEY, M. D.

DE L'ENDOMETRITE ET DE LA METRITE PARENCHYMATEUSE INFECTIEUSES. Par Dr. E. OZENNE. Paris: A. MALOINE, Editeur. 1905.

This is a splendid monograph, which embodies in a very thorough manner our present knowledge of the various forms of endometritis and metritis. The practitioner will find much valuable advice for the local, and especially general treatment of these conditions.

GYNECOLOGICAL DIAGNOSIS. A Treatise on the Diagnosis of Diseases of Women. For Students and Practitioners. By PALMER FINDLEY, B. S., M. D., Assistant Professor of Obstetrics and Gynecology, Rush Medical College. In one octavo volume of 588 pages, illustrated with 222 engravings in the text and 59 plates in colors and monochrome. Cloth, \$4.75, net. Lee Brothers & Co., publishers, Philadelphia and New York. 1905.

The importance of the subject is evident, as correct diagnosis leads directly to successful treatment. Dr. Findley covers the subject fully and practically, and bearing in mind the needs of both students and practitioners explains the most modern views and methods simply and with careful details, using black and colored illustrations freely. The first edition of this work has already been exhausted, and the author has utilized the opportunity to revise the volume thoroughly, bringing it in every part well up to date. An addition of nearly 100 pages of text, 12 engravings and 14 colored plates has been necessary to present the important growth of the subject during the short interval since its first edition.

MATERNITAS. A Book Concerning the Care of the Prospective Mother and her Child. By CHARLES E. PADDOCK, M. D., Assistant Clinical

Professor of Obstetrics, Rush Medical College. Chicago: Cloyd J. Head & Co. Price, \$1.25.

The purpose of this little volume is clearly stated in its title. Every practitioner has been asked by some of his patients just for a book of this kind. This volume can be safely placed in the hands of every expectant mother. It will explain to her many of those perplexing questions which present themselves at these times, but which she hardly considers necessary to discuss with her physician.

L'ŒUF HUMAIN ET LES PREMIERS STADES DE SON DEVELOPPEMENT, par J. POTOCKI, Professeur Agregé a la Faculté de Paris, et A. BRANCA, Professor Agregé a la Faculté de Médecine de Paris. Preface du Professeur A. PINARD, Prix, 10 francs: G. Steinheil, éditeur, Paris.

The two authors give us a book which is quite original in its conception. It is not a general embryology, but is exclusively devoted to a consideration of the first development of the human ovum. Before entering into the subject proper the writers offer a clear description of the sexual cells, both the ovum and the spermatozoid. They consider next the histology and function of the genital organs. The third part of the volume contains five chapters devoted to fecundation, segmentation of the fertilized ovum, the formation of the three germ layers and the primitive formation of the embryo. In the last part are considered the umbilical vesicle, amnion, chorion, allantois, umbilical cord and the process of implantation of the ovum with the formation of the placenta.

The subject is presented in a very exhaustive form. The authors give the results of their own investigations and quote extensively from literature. One hundred illustrations in the text and seven colored plates enhance considerably the value of this work which will prove of special interest to all those who want to familiarize themselves with the scientific aspects of obstetrics.

A MANUAL OF PRACTICAL HYGIENE FOR STUDENTS, PHYSICIANS AND MEDICAL OFFICERS. By CHARLES HARRINGTON, M. D. Third edition, 8vo., pp. 793, with 12 plates and 118 engravings. Lea Bros. & Co., Philadelphia and New York. 1905.

A new edition of Prof. Harrington's valuable work is sure of a welcome. Much new matter has been introduced, in particular a useful chapter on immunity from the hygienist's point of view. Few books on this subject better deserve a place on the physician's shelves.

ERKRANKUNGEN DES WURMFORTSATZES. VON DR. F. SCHILLING. Wurzbürger Abhandlungen aus dem Gesamtgebiet der Practischen Medizin, herausgegeben VON PROF. DR. JOH. MUELLER u. PROF. DR. OTTO SEIFERT. V Band. 2 u. 3 Heft. Wurzburg. A. Stuber's Verlag (C. Kabitzsch). 1904.

A monograph of 43 pages, in which the anatomy, pathology, diagnosis and treatment of appendicitis is briefly discussed. The writer upholds the view of many German internists, that the proper treatment of early appendicitis is with rest and opium. Operation is advised:

1. Where there clearly is an abscess.
2. In the interval.
3. To close a fecal fistula.
4. To loosen old adhesions.